

**Health and Safety Plan
for
Pre-Design Investigation Activities
at
the Lower Subbase**

**Naval Submarine Base - New London
Groton, Connecticut**



**Naval Facilities Engineering Command
Mid-Atlantic**

Contract Number N62470-08-D-1001

Contract Task Order WE57

August 2010

**HEALTH AND SAFETY PLAN
FOR
PRE-DESIGN INVESTIGATION ACTIVITIES
AT
THE LOWER SUBBASE**

**NAVAL SUBMARINE BASE - NEW LONDON
GROTON, CONNECTICUT**

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:
Naval Facilities Engineering Command Mid-Atlantic
9742 Maryland Avenue
Norfolk, Virginia 23511-3095**

**Submitted by:
Tetra Tech NUS, Inc.
234 Mall Boulevard, Suite 260
King of Prussia, Pennsylvania 19406**

**CONTRACT NUMBER N62470-08-D-1001
CONTRACT TASK ORDER WE57**

August 2010

PREPARED UNDER THE SUPERVISION OF:

APPROVED FOR SUBMITTAL BY:



**COREY A. RICH, P.E.
PROJECT MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA**



**MATTHEW M. SOLTIS, CIH, CSP
CLEAN HEALTH & SAFETY MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA**

TABLE OF CONTENTS

| SECTION | PAGE |
|--|------------|
| 1.0 INTRODUCTION..... | 1-1 |
| 1.1 AUTHORITY | 1-1 |
| 1.2 KEY PROJECT PERSONNEL AND ORGANIZATION..... | 1-1 |
| 1.3 SITE INFORMATION AND PERSONNEL ASSIGNMENTS..... | 1-3 |
| 2.0 EMERGENCY ACTION PLAN | 2-1 |
| 2.1 INTRODUCTION..... | 2-1 |
| 2.2 EMERGENCY PLANNING | 2-1 |
| 2.3 EMERGENCY RECOGNITION AND PREVENTION | 2-2 |
| 2.3.1 Recognition | 2-2 |
| 2.3.2 Prevention | 2-3 |
| 2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE | 2-3 |
| 2.5 EMERGENCY CONTACTS | 2-4 |
| 2.6 EMERGENCY ROUTE TO HOSPITAL | 2-6 |
| 2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES..... | 2-7 |
| 2.8 PPE AND EMERGENCY EQUIPMENT..... | 2-7 |
| 2.9 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT..... | 2-7 |
| 2.10 INJURY/ILLNESS REPORTING..... | 2-8 |
| 2.10.1 TOTAL Incident Reporting System | 2-8 |
| 3.0 SITE BACKGROUND..... | 3-1 |
| 4.0 SCOPE OF WORK | 4-1 |
| 5.0 IDENTIFYING AND COMMUNICATING TASK-SPECIFIC HAZARDS AND SAFE WORK PRACTICES | 5-1 |
| 5.1 GENERAL SAFE WORK PRACTICES..... | 5-1 |
| 5.2 DPT SAFE WORK PRACTICES..... | 5-2 |
| 6.0 HAZARD ASSESSMENT AND CONTROLS..... | 6-1 |
| 6.1 CHEMICAL HAZARDS | 6-1 |
| 6.1.1 Metals..... | 6-2 |
| 6.1.2 TPH | 6-3 |
| 6.1.3 PAHs | 6-3 |
| 6.1.4 VOCs..... | 6-3 |
| 6.2 PHYSICAL HAZARDS | 6-4 |
| 6.2.1 Slips, Trips, and Falls..... | 6-4 |
| 6.2.2 Strain/Muscle Pulls from Heavy Lifting | 6-4 |
| 6.2.3 Cold/ Heat Stress | 6-5 |
| 6.2.4 Pinch/Compression Points and Sharp Objects..... | 6-5 |
| 6.2.5 Natural Hazards | 6-5 |
| 6.2.6 Vehicular and Equipment Traffic..... | 6-6 |
| 6.2.7 Inclement Weather..... | 6-6 |
| 7.0 AIR MONITORING..... | 7-1 |
| 7.1 INSTRUMENTS AND USE | 7-1 |
| 7.1.1 Particulate Monitor and Area Wetting Techniques | 7-1 |
| 7.2 INSTRUMENT MAINTENANCE | 7-2 |
| 7.3 INSTRUMENT CALIBRATION | 7-2 |
| 7.4 DOCUMENTING INSTRUMENT READINGS | 7-3 |

TABLE OF CONTENTS (Continued)

| SECTION | PAGE |
|--|---------------------------------------|
| 8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS..... | 8-1 |
| 8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING | 8-1 |
| 8.2 SITE-SPECIFIC TRAINING | 8-1 |
| 8.3 MEDICAL SURVEILLANCE..... | 8-1 |
| 9.0 SITE CONTROL | 9-1 |
| 9.1 EXCLUSION ZONE | 9-1 |
| 9.1.1 Exclusion Zone Clearance | 9-1 |
| 9.2 CONTAMINATION REDUCTION ZONE | 9-1 |
| 9.3 SUPPORT ZONE..... | 9-2 |
| 9.4 SAFE WORK PERMITS..... | 9-2 |
| 9.5 SITE VISITORS | 9-2 |
| 9.6 SITE SECURITY | 9-3 |
| 9.7 SITE MAP..... | 9-4 |
| 9.8 BUDDY SYSTEM..... | 9-4 |
| 9.9 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS | 9-4 |
| 9.10 COMMUNICATION | 9-4 |
| 10.0 SPILL CONTAINMENT PROGRAM | 10-1 |
| 10.1 SCOPE AND APPLICATION | 10-1 |
| 10.2 POTENTIAL SPILL AREAS | 10-1 |
| 10.3 LEAK AND SPILL DETECTION..... | 10-1 |
| 10.4 PERSONNEL TRAINING AND SPILL PREVENTION..... | 10-1 |
| 10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT | 10-2 |
| 10.6 SPILL CONTROL PLAN | 10-2 |
| 11.0 CONFINED-SPACE ENTRY | 11-1 |
| 12.0 MATERIALS AND DOCUMENTATION | 12-1 |
| 12.1 MATERIALS TO BE POSTED AT THE SITE | 12-1 |
| 13.0 ACRONYMS / ABBREVIATIONS | 13-1 |
| ATTACHMENT I | MEDICAL DATA SHEET |
| ATTACHMENT II | INCIDENT REPORT FORM |
| ATTACHMENT III | SAFE WORK PERMITS |
| ATTACHMENT IV | EQUIPMENT INSPECTION CHECKLIST |
| ATTACHMENT V | OSHA POSTER |

LIST OF TABLES

| <u>TABLE</u> | <u>PAGE</u> |
|--|--------------------|
| 2-1 Emergency Contacts | 2-5 |
| 6-1 Maximum Concentrations of COCs On-Site and Current Occupational Exposure Limits..... | 6-1 |

LIST OF FIGURES

| <u>FIGURE</u> | <u>PAGE</u> |
|---|--------------------|
| 2-1 Map to Lawrence and Memorial Hospital | 2-6 |
| 2-2 Emergency Response Protocol | 2-9 |
| 7-1 Documentation of Field Calibration..... | 7-4 |
| 8-1 Site-Specific Training Documentation..... | 8-3 |
| 9-1 Example Safe Work Permit..... | 9-5 |

1.0 INTRODUCTION

The objective of this Health and Safety Plan (HASP) is to provide the safety and health requirements, practices and procedures for Tetra Tech NUS, Inc. (Tetra Tech) personnel participating in soil sampling at Zones 1 through 7 at the Naval Submarine Base - New London (NSB-NLON), located in Groton, Connecticut.

This HASP is to be used in conjunction with the Tetra Tech Health and Safety Guidance Manual. The Guidance Manual provides detailed information pertaining to hazard recognition and control, and Tetra Tech standard operating procedures. This HASP and the contents of the Guidance Manual were developed to comply with the requirements stipulated in 29 CFR 1910.120 (OSHA's Hazardous Waste Operations and Emergency Response Standard). Both documents must be present at the site to satisfy these requirements.

This HASP supports proposed tasks and techniques associated with the scope of work as presented in Section 4.0. It has been developed using the latest available information regarding known or suspected chemical contaminants and potential physical hazards associated with the proposed work at the site. Should the proposed work site conditions and/or suspected hazards change, or if new information becomes available, this document will be modified. Changes to the HASP will be made with the approval of the Tetra Tech Site Safety Officer (SSO) and the Tetra Tech Health and Safety Manager (HSM). Requests for modifications to the HASP will be directed to the SSO who will determine whether to make the changes. The SSO will notify the Project Manager (PM), who will notify the affected personnel of changes.

1.1 AUTHORITY

This work is authorized under the Comprehensive Long - Term Environmental Action Navy (CLEAN) contract, administered through the U.S. Navy Mid Atlantic, Naval Facilities Engineering Command, as defined under Contract No. N62470-08-D-1001; Contract Task Order Number WE57.

1.2 KEY PROJECT PERSONNEL AND ORGANIZATION

This section defines responsibilities for site safety and health for Tetra Tech employees conducting the direct push technology (DPT) activities, monitoring well activities, sewer pipe invert measurements, and other supporting field activities under this field effort. Personnel assigned to participate in the field work have the primary responsibility for performing their work tasks in a manner that is consistent with the Tetra Tech Health and Safety Policy, the health and safety training that they have received, the contents

of this HASP, and in an overall manner that protects their personal safety and health and that of their co-workers. The following persons are the primary point of contact and have the primary responsibility for observing and implementing this HASP and for overall on-site health and safety.

The Tetra Tech PM is responsible for the overall direction and implementation of health and safety for this work.

The Tetra Tech Field Operations Leader (FOL) is responsible for implementation of this HASP. The FOL manages field activities, executes the Work Plan, and enforces safety procedures as applicable to the Work Plan. Specifically, the FOL will:

- Verify training and medical status of on-site personnel in relation to site activities.
- Assist and represent Tetra Tech with emergency services (if needed)
- Provide elements of site-specific training for on site personnel.

The Tetra Tech Site Safety Officer (SSO) or his/her representative supports the FOL concerning the aspects of health and safety including, but not limited to:

- Coordinating health and safety activities
- Selecting, applying, inspecting, and maintaining personal protective equipment
- Establishing work zones and control points
- Implementing air monitoring procedures
- Implementing hazard communication, respiratory protection, and other associated safety and health programs
- Coordinating emergency services
- Providing elements of site-specific training

Compliance with these requirements is monitored by the Project Health and Safety Officer (PHSO) and is coordinated through the HSM.

All employees are empowered, authorized, and responsible to stop work at any time when an imminent and uncontrolled safety or health hazard is perceived. In a Stop Work event (immediately after the involved task has been shut down and the work area has been secured in a safe manner) the employee shall contact the Project Manager and the Corporate Health and Safety Manager. Through observations and communication, all parties involved shall then develop, communicate, and implement corrective actions necessary and appropriate to modify the task and to resume work.

1.3 SITE INFORMATION AND PERSONNEL ASSIGNMENTS

Site Name: Naval Submarine Base New London **Address:** Groton, Connecticut

Navy Point of Contact: Richard Conant **Phone Number:** (860) 694-5649

Navy RPM: James Gravette **Phone Number:** (757) 444-0735

Purpose of Site Visit: Field activities at Lower Subbase

Proposed Dates of Work: August 2010 to completion

Project Team:

Tetra Tech Personnel:

Corey Rich, P.E.

Matthew M. Soltis, CIH, CSP

Jennifer Carothers, PhD

TBD

TBD

Discipline/Tasks Assigned:

Project Manager (PM)

CLEAN Health and Safety Manager

Project Health and Safety Officer (PHSO)

Field Operations Leader (FOL)

Site Safety Officer (SSO)

Non-Tetra Tech Personnel

Affiliation/Discipline/Tasks Assigned

Hazard Assessments (for purposes of OSHA 29 CFR 1910.132) and HASP preparation conducted by:

Jennifer Carothers, PhD

2.0 EMERGENCY ACTION PLAN

2.1 INTRODUCTION

This section has been developed as part of a planning effort to direct and guide field personnel in the event of an emergency. In the event of an emergency, the field team will primarily evacuate and assemble to an area unaffected by the emergency and notify the appropriate local emergency response personnel/agencies. Workers who are ill or who have suffered a non-serious injury may be transported by site personnel to nearby medical facilities, provided that such transport does not aggravate or further endanger the welfare of the injured/ill person. The emergency response agencies listed in this plan are capable of providing the most effective response, and as such, will be designated as the primary responders. These agencies are located within a reasonable distance from the area of site operations, which ensures adequate emergency response time. The Navy RPM (James Gravette) and Navy point of contact Richard Conant will be notified if outside response agencies are contacted.

Tetra Tech personnel may participate in minor event response and emergency prevention activities such as:

- Initial fire-fighting support and prevention
- Initial spill control and containment measures and prevention
- Removal of personnel from emergency situations
- Provision of initial medical support for injury/illness requiring only first-aid level support
- Provision of site control and security measures as necessary

2.2 EMERGENCY PLANNING

Through the initial hazard/risk assessment effort, emergencies resulting from chemical, physical, or fire hazards are the types of emergencies which could be encountered during site activities. To minimize or eliminate the potential for these emergency situations, pre-emergency planning activities will include the following (which are the responsibility of the SSO and/or the FOL):

- Coordinating with the City of Groton Emergency Response personnel to ensure that Tetra Tech emergency action activities are compatible with existing emergency response procedures.
- Establishing and maintaining information at the project staging area (support zone) for easy access in the event of an emergency. This information will include the following:
 - Chemical Inventory (of chemicals used onsite), with Material Safety Data Sheets.

- Onsite personnel medical records (Medical Data Sheets).
- A log book identifying personnel onsite each day.
- Hospital route maps with directions (these should also be placed in each site vehicle).
- Emergency Notification - phone numbers.

The Tetra Tech FOL will be responsible for the following tasks:

- Identifying a chain of command for emergency action.
- Educating site workers to the hazards and control measures associated with planned activities at the site, and providing early recognition and prevention, where possible.
- Periodically performing practice drills to ensure site workers are familiar with incidental response measures.
- Providing the necessary equipment to safely accomplish identified tasks.

2.3 EMERGENCY RECOGNITION AND PREVENTION

2.3.1 Recognition

Emergency situations that may be encountered during site activities will generally be recognized by visual observation. Visual observation will also play a role in detecting potential exposure events to some chemical hazards. To adequately recognize chemical exposures, site personnel must have a clear knowledge of signs and symptoms of exposure associated with the principle site contaminants of concern as presented in this HASP. Tasks to be performed at the site, potential hazards associated with those tasks and the recommended control methods are discussed in detail in Sections 5.0 and 6.0. Additionally, early recognition of hazards will be supported by daily site surveys to eliminate any situation predisposed to an emergency. The FOL and/or the SSO will be responsible for performing surveys of work areas prior to initiating site operations and periodically while operations are being conducted. Survey findings are documented by the FOL and/or the SSO in the Site Health and Safety logbook, however, site personnel will be responsible for reporting hazardous situations. Where potential hazards exist, Tetra Tech will initiate control measures to prevent adverse effects to human health and the environment.

The above actions will provide early recognition for potential emergency situations, and allow Tetra Tech to instigate necessary control measures. However, if the FOL and the SSO determine that control

measures are not sufficient to eliminate the hazard Tetra Tech will withdraw from the site and notify the appropriate response agencies listed in Table 2-1.

2.3.2 Prevention

Tetra Tech and subcontractor personnel will minimize the potential for emergencies by following the Health and Safety Guidance Manual and ensuring compliance with the HASP and applicable OSHA regulations. Daily site surveys of work areas, prior to the commencement of that day's activities, by the FOL and/or the SSO will also assist in prevention of illness/injuries when hazards are recognized early and control measures initiated.

2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE

An evacuation will be initiated whenever recommended hazard controls are insufficient to protect the health, safety or welfare of site workers. Specific examples of conditions that may initiate an evacuation include, but are not limited to the following: severe weather conditions; fire or explosion; monitoring instrumentation readings which indicate levels of contamination are greater than instituted action levels; and evidence of personnel overexposure to potential site contaminants.

In the event of an emergency requiring evacuation, personnel will immediately stop activities and report to the designated safe place of refuge unless doing so would pose additional risks. When evacuation to the primary place of refuge is not possible, personnel will proceed to a designated alternate location and remain until further notification from the Tetra Tech FOL. Safe places of refuge will be identified prior to the commencement of site activities by the SSO and will be conveyed to personnel as part of the pre-activities training session. This information will be reiterated during daily safety meetings. Whenever possible, the safe place of refuge will also serve as the telephone communications point for that area. During an evacuation, personnel will remain at the refuge location until directed otherwise by the Tetra Tech FOL or the on-site Incident Commander of the Emergency Response Team. The FOL or the SSO will perform a head count at this location to account for and to confirm the location of site personnel. Emergency response personnel will be immediately notified of any unaccounted personnel. The SSO will document the names of personnel onsite (on a daily basis) in the site Health and Safety Logbook. This information will be utilized to perform the head count in the event of an emergency.

Evacuation procedures will be discussed during the pre-activities training session, prior to the initiation of project tasks. Evacuation routes from the site and safe places of refuge are dependent upon the location at which work is being performed and the circumstances under which an evacuation is required. Additionally, site location and meteorological conditions (i.e., wind speed and direction) may dictate evacuation routes. As a result, assembly points will be selected and communicated to the workers

relative to the site location where work is being performed. Evacuation should always take place in an upwind direction from the site.

2.5 EMERGENCY CONTACTS

Prior to initiating field activities, personnel will be thoroughly briefed on the emergency procedures to be followed in the event of an accident. Table 2-1 provides a list of emergency contacts and their associated telephone numbers. This table must be posted where it is readily available to site personnel. Facility maps should also be posted showing potential evacuation routes and designated meeting areas.

As soon as possible, the Navy point of contact Richard Conant will be informed of any incident or accident that requires medical attention.

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical services personnel. This information is listed on Medical Data Sheets filed onsite (see Attachment I).

TABLE 2-1
EMERGENCY CONTACTS
NSB-NLON, GROTON, CONNECTICUT

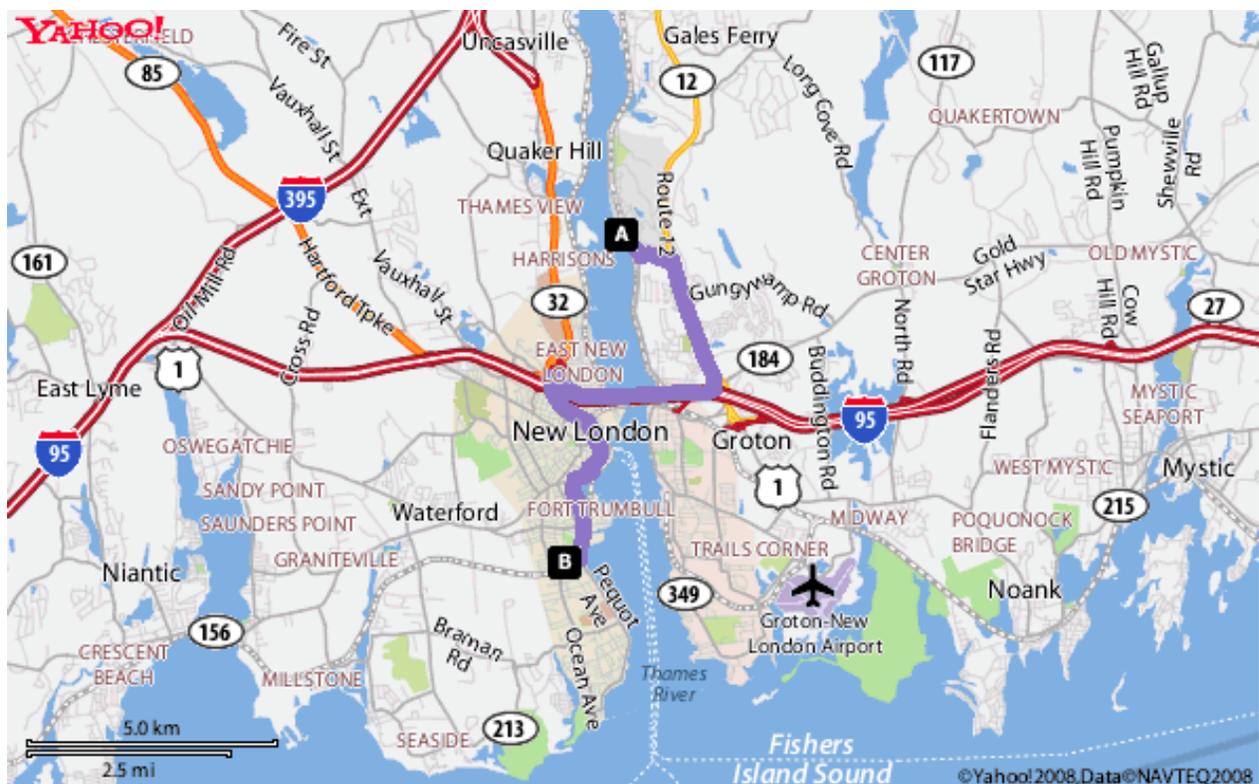
| CONTACT | PHONE NUMBER |
|--|--|
| Local NSB-NLON Fire Department and EMS | Ext. 3333 from base phone or (860) 694-3333 |
| Lawrence & Memorial Hospital | (860) 442-0711 |
| (Off-Base) Groton Police and Fire Department | 911 |
| Poison Control Center | (800) 222-1222 |
| Utility Emergencies (electric, gas, water and sewer) NSB-NLON Public Works: | (860) 694-4711 |
| Connecticut Call Before Your Dig | (800) 922-4455 |
| Site Contact Richard Conant | (860) 694-5649 |
| Navy RPM James Gravette | (757) 444-0735 |
| NSB-NLON Security: | (860) 694-3444 |
| Tetra Tech Project Manager Corey Rich, P.E. | (412) 921-8984 |
| Tetra Tech Project Health and Safety Officer Jennifer Carothers, PhD | (412) 921-8083 |
| Tetra Tech CLEAN Health and Safety Manager Matthew M. Soltis, CIH, CSP | (412) 921-8912 |

2.6 EMERGENCY ROUTE TO HOSPITAL

Lawrence and Memorial Hospital, 365 Montauk Ave., New London:

Exit the base and proceed South on Route 12. Exit onto I-95 South and take exit 82A. Proceed on the service road and continue until turning on Coleman Street. Travel on Coleman St. to the intersection of Coleman and Bank Streets. Turn right onto Bank Street and follow to the intersection of Ocean Avenue. Turn left onto Ocean Avenue and follow signs to the Hospital.

**FIGURE 2-1
MAP TO LAWRENCE AND MEMORIAL HOSPITAL**



2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

Tetra Tech personnel will be working in close proximity to each other at NSB-NLON. As a result, hand signals, voice commands, and line of site communication will be sufficient to alert site personnel of an emergency. Two-way radios may also be used between site workers to communicate emergency situations and request assistance if work occurs concurrently at multiple sites that are not proximate to each other.

If an emergency warranting evacuation occurs, the following procedures are to be initiated:

- Initiate the evacuation via hand signals, voice commands, or line of site communication
- Report to the designated refuge point where the FOL will account for site personnel
- Once non-essential personnel are evacuated, appropriate response procedures will be enacted to control the situation.
- Describe to the FOL (FOL will serve as the Incident Coordinator) pertinent incident details.

In the event that site personnel cannot mitigate the hazardous situation, the FOL and SSO will enact emergency notification procedures to secure additional assistance in the following manner:

Dial 911 and call other pertinent emergency contacts listed in Table 2-1 and report the incident. Give the emergency operator the location of the emergency, the type of emergency, the number of injured, and a brief description of the incident. Stay on the phone and follow the instructions given by the operator. The operator will then notify and dispatch the proper emergency response agencies.

2.8 PPE AND EMERGENCY EQUIPMENT

A first-aid kit, eye wash units (or bottles of disposable eyewash solution) and fire extinguishers (strategically placed) will be maintained onsite and shall be immediately available for use in the event of an emergency. This equipment will be located in the field office as well as in each site vehicle. At least one first aid kit supplied with equipment to protect against bloodborne pathogens will also be available on site. Personnel identified within the field crew with bloodborne pathogen and first-aid training will be the only personnel permitted to offer first-aid assistance.

2.9 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT

During any site evacuation, decontamination procedures will be performed only if doing so does not further jeopardize the welfare of site workers. Decontamination will not be performed if the incident warrants immediate evacuation. However, it is unlikely that an evacuation would occur which would require workers to evacuate the site without first performing the necessary decontamination procedures.

Tetra Tech personnel will perform rescue operations from emergency situations and may provide initial medical support for injury/illnesses requiring only "Basic First-Aid" level support, and only within the limits of training obtained by site personnel. Basic First-Aid is considered treatment that can be rendered by a trained first aid provider at the injury location and not requiring follow-up treatment or examination by a physician (for example; minor cuts, bruises, stings, scrapes, and burns). Not included as Basic First-Aid are second or third degree burns, cuts, lacerations requiring stitches or butterfly bandaging, heat exhaustion, severe poisonous plant or insect bite reactions. Personnel providing medical assistance are required to be trained in First-Aid and in the requirements of OSHA's Bloodborne Pathogen Standard (29 CFR 1910.1030). Medical attention above First-Aid level support will require assistance from the designated emergency response agencies. Attachment II provides the procedure to follow when reporting an injury/illness, and the form to be used for this purpose. **If the emergency involves personnel exposures to chemicals, follow the steps provided in Figure 2-2.**

2.10 INJURY/ILLNESS REPORTING

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical services personnel. This information is listed on Medical Data Sheets filed onsite. If an exposure to hazardous materials has occurred, provide information on the chemical, physical, and toxicological properties of the subject chemical(s) to medical service personnel.

If any Tetra Tech personnel are injured or develop an illness as a result of working on site, the Tetra Tech "Incident Report Form" (Attachment II) must be followed. Following this procedure is necessary for documenting of the information obtained at the time of the incident.

2.10.1 TOTAL Incident Reporting System

TOTAL is Tetra Tech's new online incident reporting system. Site employees can use TOTAL to directly report health and safety incidents, notify key personnel, and initiate the process for properly investigating and addressing the causes of incidents, including near-miss events. An incident is considered any unplanned event. It may include several types of near misses, events where no loss was incurred, or incidents that resulted in injuries or illness, property or equipment damage, chemical spills, fires, or damage to motor vehicles.

TOTAL looks like the incident reporting form in Attachment II. TOTAL is an intuitive system that will guide you through the necessary steps to report an incident within 24 hours of its occurrence. Behind the scenes, TOTAL is a powerful tool for H&S professionals, and will help Tetra Tech to better track incidents, analyze root causes, implement corrective action plans, and share lessons learned. The ultimate result is a more safe and healthy working environment for us all.

TOTAL is maintained on the Tetra Tech Intranet site at <https://my.tetrattech.com/>

Once on the "My Tetrattech" site, TOTAL can be found under the Health and Safety tab, Incident Reporting section, select "Report an Incident (TOTAL)". This will connect you directly to TOTAL. TOTAL can also be accessed directly from the internet using the following web address: <http://totalhs.tetrattech.com/>

Note: When using the system outside the Tetra Tech intranet system or when operating in a wireless mode, a VPN connection will be required. The speed of the application may be affected dependent upon outside factors such as connection, signal strength, etc. Enter the system using your network user name and password. The user name should be in the following format - TT\nickname.lastname

FIGURE 2-2
POTENTIAL EXPOSURE PROTOCOL

The purpose of this protocol is to provide guidance for the medical management of injury situations.

In the event of a personnel injury or accident:

- Rescue, when necessary, employing proper equipment and methods.
- Give attention to emergency health problems -- breathing, cardiac function, bleeding, and shock.
- Transfer the victim to the medical facility designated in this HASP by suitable and appropriate conveyance (i.e. ambulance for serious events)
- Obtain as much exposure history as possible (a Potential Exposure report is attached).
- If the injured person is a Tetra Tech employee, call the medical facility and advise them that the patient(s) is/are being sent and that they can anticipate a call from the WorkCare physician. WorkCare will contact the medical facility and request specific testing which may be appropriate. WorkCare physicians will monitor the care of the victim. Site officers and personnel should not attempt to get this information, as this activity leads to confusion and misunderstanding.
- Call WorkCare at 800-455-6155 and enter Extension 109, being prepared to provide:
 - Any known information about the nature of the injury.
 - As much of the exposure history as was feasible to determine in the time allowed.
 - Name and phone number of the medical facility to which the victim(s) has/have been taken.
 - Name(s) of the involved Tetra Tech employee(s).
 - Name and phone number of an informed site officer who will be responsible for further investigations.
 - Fax appropriate information to WorkCare at (714) 456-2154.
- Contact Corporate Health and Safety Department (Matt Soltis) and Human Resources Department (Marilyn Duffy) at 412-921-7090.

As data is gathered and the scenario becomes more clearly defined, this information should be forwarded to WorkCare.

WorkCare will compile the results of data and provide a summary report of the incident. A copy of this report will be placed in each victim's medical file in addition to being distributed to appropriately designated company officials.

Each involved worker will receive a letter describing the incident but deleting any personal or individual comments. A personalized letter describing the individual findings/results will accompany this generalized summary. A copy of the personal letter will be filed in the continuing medical file maintained by WorkCare.

**FIGURE 2-2 (continued)
WORKCARE
POTENTIAL EXPOSURE REPORT**

Name: _____ Date of Exposure: _____

Social Security No.: _____ Age: _____ Sex: _____

Client Contact: _____ Phone No.: _____

Company Name: _____

I. Exposing Agent

Name of Product or Chemicals (if known): _____

Characteristics (if the name is not known)

Solid Liquid Gas Fume Mist Vapor

II. Dose Determinants

What was individual doing? _____

How long did individual work in area before signs/symptoms developed? _____

Was protective gear being used? If yes, what was the PPE? _____

Was their skin contact? _____

Was the exposing agent inhaled? _____

Were other persons exposed? If yes, did they experience symptoms? _____

III. Signs and Symptoms (check off appropriate symptoms)

Immediately With Exposure:

Burning of eyes, nose, or throat
Tearing
Headache
Cough
Shortness of Breath

Chest Tightness / Pressure
Nausea / Vomiting
Dizziness
Weakness

Delayed Symptoms:

Weakness
Nausea / Vomiting
Shortness of Breath
Cough

Loss of Appetite
Abdominal Pain
Headache
Numbness / Tingling

IV. Present Status of Symptoms (check off appropriate symptoms)

Burning of eyes, nose, or throat
Tearing
Headache
Cough
Shortness of Breath
Chest Tightness / Pressure
Cyanosis

Nausea / Vomiting
Dizziness
Weakness
Loss of Appetite
Abdominal Pain
Numbness / Tingling

Have symptoms: (please check off appropriate response and give duration of symptoms)

Improved: _____ Worsened: _____ Remained Unchanged: _____

V. Treatment of Symptoms (check off appropriate response)

None: _____ Self-Medicated: _____ Physician Treated: _____

3.0 SITE BACKGROUND

This section provides information pertaining to NSB-NLON and the sites that are to be investigated. This information will be revised if additional information becomes available or if additional sites are going to be investigated.

NSB-NLON is located in southeastern Connecticut in the Towns of Ledyard and Groton and is situated on the eastern bank of the Thames River, approximately 6 miles north of Long Island Sound. The Lower Subbase study area extends from just south of Pier 2 to just north of Pier 33. Building 175, located just north of Pier 33, is included within the Lower Subbase study area. The study area includes approximately 33 acres of land along the Thames River. The Lower Subbase of NSB-NLON is bordered on the west by the Thames River and on the east by the Providence and Worcester Railroad. A quay (retaining) wall runs along the Thames River for the entire length of the Lower Subbase. The Lower Subbase contains piers and berths for submarine docking; facilities for submarine maintenance, repair, and overhaul; and administrative buildings. The Lower Subbase has been divided into seven zones that include nine IRP sites and the Quay Wall Study Area.

The majority of the Lower Subbase is flat and paved or covering with buildings. A silty sand layer underlies the sand and gravel fill in the southern half of the Lower Subbase (Zones 1 through 4 and Zone 7). In these zones, fill material consists primarily of sand and gravel with isolated areas of wood, fly ash, brick and concrete fragments, and metal fragments. In Zones 5 and 6, sand and gravel fill overlies sand of stratified drift deposits.

4.0 SCOPE OF WORK

This section of the HASP addresses proposed site activities that are to be conducted at the previously discussed sites at NSB-NLON.

The field activities will include the following tasks:

- Mobilization/Demobilization
- Soil sampling activities via DPT
 - Includes coring through concrete and asphalt
- Monitoring well condition surveying
 - All found wells shall be opened and depth to water, well depth, and depth to free product (if applicable) shall be measured. General well conditions will be completed in the field to indicate PID readings, if applicable, current well conditions, and recommended maintenance of each well.
- Measurement of storm sewer pipe inverts
 - For the catch basins and manholes, the covers will be removed, a reference point on the frame for each will be marked with permanent paint, and the vertical distance from the reference point to each pipe invert (bottom inside of pipe) within each catch basin or manhole will be measured to the nearest 0.1 ft and documented.
- Geological surveying
- Decontamination
- IDW management

Any tasks to be conducted outside of the elements listed here will be considered a change in scope requiring modification of this document. The PM or a designated representative will submit requested modifications to this document to the HSM.

5.0 IDENTIFYING AND COMMUNICATING TASK-SPECIFIC HAZARDS AND SAFE WORK PRACTICES

The purpose of this section is to identify the anticipated hazards and appropriate hazard prevention/hazard control measures that are to be observed for each planned task or operation. These topics have been summarized for each planned task through the use of task-specific Safe Work Permits (SWPs), which are to be reviewed in the field by the SSO with task participants prior to initiating any task. Additionally, potential hazard and hazard control matters that are relevant but are not necessarily task-specific are addressed in the following portions of this section.

Section 6.0 presents additional information on hazard anticipation, recognition, and control relevant to the planned field activities.

5.1 GENERAL SAFE WORK PRACTICES

In addition to the task-specific work practices and restrictions identified in the SWPs attached to this HASP (Attachment III), the following general safe work practices are to be followed when conducting work on-site.

- Eating, drinking, chewing gum or tobacco, taking medication, or smoking in contaminated or potentially contaminated areas or where the possibility for the transfer of contamination exists is prohibited.
- Wash hands and face thoroughly upon leaving a contaminated or suspected contaminated area. If a source of potable water is not available at the work site that can be used for hands-washing, the use of waterless hands cleaning products will be used, followed by actual hands-washing as soon as practicable upon exiting the site.
- Avoid contact with potentially contaminated substances including puddles, pools, mud, or other such areas. Avoid, kneeling on the ground or leaning or sitting on equipment. Keep monitoring equipment away from potentially contaminated surfaces.
- Plan and mark entrance, exit, and emergency evacuation routes.
- Rehearse unfamiliar operations prior to implementation.

- Buddies should maintain visual contact with each other and with other on-site team members by remaining in close proximity to assist each other in case of emergency.
- Establish appropriate safety zones including support, contamination reduction, and exclusion zones.
- Minimize the number of personnel and equipment in contaminated areas (such as the exclusion zone). Non-essential vehicles and equipment should remain within the support zone.
- Establish appropriate decontamination procedures for leaving the site.
- Immediately report injuries, illnesses, and unsafe conditions, practices, and equipment to the SSO.
- Observe co-workers for signs of toxic exposure and heat or cold stress.
- Inform co-workers of potential symptoms of illness, such as headaches, dizziness, nausea, or blurred vision.

5.2 DPT SAFE WORK PRACTICES

The following Safe Work Practices are to be followed when working near operating Direct Push or other drilling equipment.

- Identify underground utilities, buried structures, and aboveground utility lines before performing intrusive operations. Tetra Tech NUS, Inc. personnel will follow the Tetra Tech SOP for Utility Locating and Excavation Clearance found in Tab 7 of the Tetra Tech Health and Safety Guidance Manual.
- DPT rigs will be inspected by the SSO or designee, prior to the acceptance of the equipment at the site and prior to the use of the equipment. Needed repairs or identified deficiencies will be corrected prior to use. The inspection will be accomplished using the Equipment Inspection Checklist provided in Attachment IV.
- Check operation of the Emergency Stop Switch (initially, then periodically thereafter).
- Ensure that machine guarding is in place and properly adjusted.
- Block drilling/soil boring rig and use out riggers/levelers to prevent movement of the rig.

- The work area around the point of operation will be graded to the extent possible to remove any trip hazards near or surrounding operating equipment.
- The driller's helper will establish an equipment staging and lay down plan. The purpose of this is to keep the work area clear of clutter and slips, trips, and fall hazards.
- Potentially contaminated tooling will be wrapped in polyethylene sheeting for storage and transport to the centrally located equipment decontamination unit.
- Prior to each instance of engaging the drilling/soil boring rig, the Driller will look to ensure that the area is clear of personnel and obstructions, and verbally alert everyone in the area that the rig is about to be engaged.
- Prior to the start of boring operations, one individual will be designated as the person responsible for immediate activation of the emergency stop device (if applicable) in the event of an emergency. This individual will be made known to the field crew and will be responsible for visually checking the work area and verbally alerting every one of boring operations prior to engaging the equipment.
- The worker will ensure that an individual is constantly stationed at a location where the drilling/soil boring rig emergency stop switch can be immediately engaged.
- Minimize contact to the extent possible with contaminated tooling and environmental media.
- Support functions (sampling and screening stations) will be maintained a minimum distance from the DPT rig of the height of the mast plus five feet or 25-feet for drilling/soil boring operations whichever is greater to remove these activities from within physical hazard boundaries.
- Only qualified operators and knowledgeable ground crew personnel will participate in the operation of the drill rig.
- During maintenance, use only manufacturer provided/approved equipment
- In order to minimize contact with potentially contaminated tooling and media and to minimize lifting hazards, multiple personnel should move heavy tooling.
- Only personnel absolutely essential to the work activity will be allowed in the exclusion zone.

- Equipment used within the exclusion zone will undergo a complete decontamination and evaluation by the SSO to determine cleanliness prior to moving to the next location, exiting the site, or prior to down time for maintenance.
- Motorized equipment will be fueled prior to the commencement of the day's activities. During fueling operations equipment will be shutdown and bonded to the fuel source.
- When not in use DPT rigs will be shutdown, and emergency brakes set and wheels will be chocked to prevent movement.

Areas subjected to subsurface investigative methods will be restored to equal or better than original condition. Any contamination that was brought to the surface by drilling/soil boring operations will be removed and containerized. Physical hazards (debris, uneven surfaces, ruts, etc.) will be removed, repaired or otherwise corrected. In situations where these hazards cannot be removed these areas will be barricaded to minimize the impact on field crews working in the area.

6.0 HAZARD ASSESSMENT AND CONTROLS

This section provides reference information regarding the chemical and physical hazards which may be associated with activities that are to be conducted as part of the scope of work.

6.1 CHEMICAL HAZARDS

Based on an evaluation of previous analytical data and historical information about the site, the contaminants of concern (COCs) at this site detected are some VOCs (including acetone, methylene chloride, and xylenes), PAHs, metals (including lead), and TPH. Table 6-1 lists an example of each primary COC, their maximum concentrations on-site, current OELs, and for metals, the amount of dust-in-air that would have to be generated to reach the current OELs. Potential exposure that may occur through direct contact or ingestion of contaminants can be adequately controlled through the use of appropriate personal protective equipment and good hygiene.

**TABLE 6-1
MAXIMUM CONCENTRATIONS OF COCs ON-SITE
AND CURRENT OCCUPATIONAL EXPOSURE LIMITS**

| Contaminant of Concern | Highest Concentration Previously Detected in soil | Amount of Dust-In-Air That Would Have to be Generated to Reach OEL | Current OSHA PEL and ACGIH TLV |
|-------------------------------|---|--|--|
| Lead (primary metal) | 189,000 mg/kg | 0.07 mg/m ³ | OSHA: 0.05 mg/m ³ TWA ₈ ACGIH: 0.5 mg/m ³ TWA ₈ |
| Contaminant of Concern | Highest Concentration Previously Detected in soil | Worst Case Scenario Concentration | Current OSHA PEL And ACGIH TLV |
| Acetone (example VOC) | 1.3 mg/kg | 188 ppm | OSHA: 500 mg/m ³ TWA ₈ |
| Napthalene (example SVOC) | 1.7 mg/kg | 0.39 ppm | OSHA: 10 mg/m ³ TWA ₈ |
| Benzo(a)pyrene (example SVOC) | 17 mg/kg | NA | NA |
| Xylene (example VOC) | 0.23 mg/kg | 1.16 ppm | OSHA: 100 mg/m ³ TWA ₈ |
| TPH | 51,600 mg/kg | NA | OSHA: 500 ppm of petroleum distillates per million parts of air |

Table Notes:

TWA₈: Average air concentration over an 8-hour work period that is not to be exceeded

Inhalation: Based on an evaluation of the above data, SVOCs and VOCs are not likely to represent a health concern to workers on-site. However, worker exposure to airborne concentrations of the metals of concern (primarily lead) that could represent a health concern is considered to be possible. In addition, dust containing metals that could be generated during site activities may not be visually detectable with the naked eye (<2.5ppm in size), therefore, a dust particulate monitor will be required for intrusive

activities (see Section 7). In addition, area wetting techniques will be employed, when necessary, to suppress dust generation.

Ingestion and Skin Contact: Potential exposure concerns to contaminants of concern may also occur through ingesting or coming into direct skin contact with contaminated media. The likelihood of worker exposure concerns through these two routes are also considered very unlikely, provided that workers follow good personal hygiene and standard good sample collection/sample handling practices, and wear appropriate PPE as specified in this HASP. Examples of onsite practices that are to be observed that will protect workers from exposure via ingestion or skin contact include the following:

- No hand-to-mouth activities on site (eating, drinking, smoking, etc.)
- Washing hands upon leaving the work area and prior to performing any hand to mouth activities
- Wearing surgeon's-style gloves whenever handling potentially-contaminated media, including groundwater, soil, and sediment, hand tools, and sample containers.

Based on the available data, none of the potential contaminants of concern including COCs are likely to be encountered at concentrations that would represent a reasonable exposure concern given that:

- The planned work area is outdoors, with ample natural ventilation that will reduce any airborne COCs through dilution and dispersion,
- Sampling activities will require very limited contact with potentially contaminated media,
- Sediment sampling activities are being conducted in or around bodies of water, greatly reducing the amount of dust generated and dispersed.

As a result of these factors, it is very unlikely that workers participating in this activity will encounter any airborne concentrations of COCs that would represent an occupational exposure concern. To ensure that site workers are not exposed to airborne concentrations of COCs, real-time direct reading monitoring instruments will be used (as described in Section 7.0). This will be performed during the sampling activities, as these tasks are the most likely to involve encountering/releasing any COCs into the airphase.

6.1.1 Metals

Toxic metals, including heavy metals, are individual metals and metal compounds that negatively affect people's health. In very small amounts, many of these metals are necessary to support life. However, in larger amounts, they become toxic. They may build up in biological systems and become a significant health hazard.

Lead OSHA-permissible exposure limits of 50 µg/m³.

6.1.2 **TPH**

Total petroleum hydrocarbons (TPH) is a term used to describe a large family of several hundred chemical compounds that originally come from crude oil. Crude oil is used to make petroleum products, which can contaminate the environment. Because there are so many different chemicals in crude oil and in other petroleum products, it is not practical to measure each one separately. However, it is useful to measure the total amount of TPH at a site.

Some chemicals that may be found in TPH are hexane, jet fuels, mineral oils, benzene, toluene, xylenes, naphthalene, and fluorene, as well as other petroleum products and gasoline components. However, it is likely that samples of TPH will contain only some, or a mixture, of these chemicals.

6.1.3 **PAHs**

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides.

Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer. Some PAHs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin (skin cancer).

6.1.4 **VOCs**

VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing, and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while using them, and, to some degree, when they are stored.

Eye, nose, and throat irritation; headaches, loss of coordination, nausea; damage to liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. Key signs or symptoms associated with exposure to VOCs include conjunctival irritation, nose and throat discomfort, headache, allergic skin reaction, dyspnea, declines in serum cholinesterase levels, nausea, emesis, epistaxis, fatigue, dizziness.

6.2 PHYSICAL HAZARDS

The following is a list of physical hazards that may be encountered at the site or may be present during the performance of site activities.

- Slip, trips, and falls
- Strain/muscle pulls from heavy lifting
- Cold/heat stress
- Pinch/compression points and sharp objects
- Natural hazards (snakes, ticks, poisonous plants, etc.)
- Vehicular and equipment traffic
- Inclement weather

These hazards are discussed further below, and are presented relative to each task in the task-specific Safe Work Permits.

6.2.1 Slips, Trips, and Falls

During various site activities there is a potential for slip, trip, and fall hazards associated with wet, steep, or unstable work surfaces. To minimize hazards of this nature, personnel required to work in and along areas prone to these types of hazards will be required to exercise caution, and use appropriate precautions (restrict access, guardrails, life lines and/or safety harnesses) and other means suitable for the task at hand. Site activities will be performed using the buddy system.

6.2.2 Strain/Muscle Pulls from Heavy Lifting

During execution of planned activities there is some potential for strains, sprains, and/or muscle pulls due to the physical demands and nature of this site work. To avoid injury during lifting tasks personnel are to lift with the force of the load carried by their legs and not their backs. When lifting or handling heavy material or equipment use an appropriate number of personnel. Keep the work area free from ground clutter to avoid unnecessary twisting or sudden movements while handling loads.

6.2.3 Cold/ Heat Stress

Because of the likely seasonal weather conditions that will exist during the planned schedule, it will be necessary for the field team to be aware of the signs and symptoms and the measures appropriate to prevent cold/heat stress. This is addressed in detail in section 4.0 of the Tetra Tech Health and Safety Guidance Manual, which the SSO is responsible for reviewing and implementing as appropriate on this project.

6.2.4 Pinch/Compression Points and Sharp Objects

Handling of tools, machinery, and other equipment on site may expose personnel to pinch/compression point and sharp object hazards during normal work activities. Where applicable, equipment will have intact and functional guarding to prevent personnel contact with hazards. Personnel will exercise caution when working around pinch/compression points and sharp objects (such as tools used to slice open the plastic sleeves containing the cores), using additional tools or devices (e.g., pinch bars, etc.) to assist in completing activities.

6.2.5 Natural Hazards

Natural hazards such as poisonous plants, bites from poisonous or disease carrying animals or insects (e.g., snakes, ticks, mosquitoes) are often prevalent at sites that are being investigated as part of hazardous waste site operations. To minimize the potential for site personnel to encounter these hazards, nesting areas in and about work areas will be avoided to the greatest extent possible. Work areas will be inspected to look for any evidence that these hazardous conditions may exist.

During warm months (spring through early fall), tick-borne Lyme Disease may pose a potential health hazard. The longer a disease carrying tick remains attached to the body, the greater the potential for contracting the disease. Wearing long sleeved shirts and long pants (tucked into boots and taped) will prevent initial tick attachment, while performing frequent body checks will help prevent long term attachment. Site first aid kits should be equipped with medical forceps and rubbing alcohol to assist in tick removal. For information regarding tick removal procedures and symptoms of exposure, consult Section 4.0 of the Health and Safety Guidance Manual.

Contact with poisonous plants and bites or stings from poisonous insects are other potential natural hazards. Long sleeved shirts and long pants (tucked into boots), and avoiding potential nesting areas, will minimize the potential for exposure. Additionally, insect repellents may be used by site personnel. Personnel who are allergic to stinging insects (such as bees, wasps and hornets) must be particularly careful since severe illness and death may result from allergic reactions. As with any medical condition

or allergy, information regarding the condition must be listed on the Medical Data Sheet (see Attachment I of this HASP), and the FOL or SSO notified.

Mosquito-Borne Illnesses

Mosquitoes may carry diseases including St. Louis Encephalitis, Eastern Equine Encephalitis, La Crosse Encephalitis, and West Nile Virus. Mosquitoes become infected after biting infected birds. The symptoms of mosquito-borne illnesses may include headache, moderate to high fever, stiff neck, and confusion. In serious cases, coma, seizures, or paralysis can result. Symptoms usually appear between 5 to 15 days after exposure to infected mosquitoes. Mosquito-borne illnesses may be mild or serious and can lead to death.

Precautions include the following:

- Limit outdoor activities during peak mosquito times – at dusk and dawn.
- Avoid standing water.
- Wear long-sleeved shirts and long pants whenever you are outdoors.
- Apply insect repellent according to manufacturer's instruction to exposed skin. An effective repellent will contain 20 to 30 percent DEET (N,N-diethyl-meta-toluamide). Avoid products containing more than 30 percent DEET.
- Spray clothing with repellents containing permethrin or DEET; mosquitoes may bite through thin clothing.

6.2.6 Vehicular and Equipment Traffic

Hazards associated with vehicular and equipment traffic are unlikely to exist during site activities. To minimize the potential for injuries associated with potential vehicular hazards, site personnel will be instructed to maintain awareness of traffic and moving equipment when performing site activities. When working near roadways, site personnel will wear high visibility vests.

6.2.7 Inclement Weather

Project tasks under this Scope of Work will be performed outdoors. As a result, inclement weather may be encountered. In the event that adverse weather (electrical storms, tornadoes, etc.) conditions arise,

the FOL and/or the SSO will be responsible for temporarily suspending or terminating activities until hazardous conditions no longer exist.

7.0 AIR MONITORING

Direct-reading instruments will be used to detect and evaluate the presence of site contaminants and other potentially hazardous conditions and to screen sample media.

7.1 INSTRUMENTS AND USE

Instruments will be used primarily to monitor sample locations and worker breathing zone areas while observing instrument action levels.

7.1.1 Particulate Monitor and Area Wetting Techniques

Metals, in the form of dust particulates, may be present in significant concentrations during intrusive activities to present an inhalation hazard. As a precautionary measure to assure that such exposures are avoided and documented, continuous monitoring will be conducted during the intrusive site activities (i.e., sampling/DPT activities) using an airborne particulate/dust monitor, the worker's sense of smell, and perception of irritation (i.e. if the worker's nose/eyes becomes irritated or they smell a distinctive odor, they would notify their FOL/SSO).

Therefore, the airborne particulate/dust monitor will be used **during intrusive activities** primarily to monitor source points and worker breathing zone areas, while observing instrument action levels. The SHSO will obtain and document the daily background reading at an upwind unaffected area and monitor for readings greater than that background level. The SHSO will monitor source areas (e.g., above collected samples and confined areas, etc.) for the presence of any reading greater than the daily-established background level. If elevated readings are observed, the SHSO will monitor the workers' breathing zone with the airborne particulate/dust monitor.

OSHA regulations state that no worker should be exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (0.05 mg/m^3) averaged over an 8-hour work day.

Action Level: If the appropriate instrument action level of 0.05 mg/m^3 is exceeded 4 times in one work day, the following process will be followed:

- The SHSO will order all personnel to stop work and retreat upwind to a safe unaffected area where they will remain until further directed by the SHSO.

- The SHSO will allow at least 5 minutes to pass so that the work area can ventilate and will then reapproach the work area while continuously monitoring the breathing zone.
- The FOL and field crew will review the manufacturer's instructions for the particulate monitor before being used. Each field team member will demonstrate competence in using the particulate monitor during Site specific Health and Safety training.
- Only when background levels are re-established in breathing zone will work be permitted to resume.
- If background levels are not re-established, the SHSO will contact the HSM for additional direction.

In addition, area wetting techniques will be employed, when necessary, to suppress dust generation.

7.2 INSTRUMENT MAINTENANCE

Maintenance activities to be conducted on the sites are as follows:

- Wiping down the outer shells of the monitoring equipment used – daily
- Battery charging – daily (as applicable)

Maintenance greater than that mentioned above will require the attention of a certified technician and will not be performed on site.

7.3 INSTRUMENT CALIBRATION

Hazard monitoring instruments will be maintained and pre-field calibrated by the equipment provider (i.e., rental agency used). Operational checks and field calibration will be performed on site instruments each day prior to their use. Field calibration will be performed on instruments according to manufacturer's recommendations. These operational checks and calibration efforts will be performed in a manner that complies with the employees health and safety training, the manufacturer's recommendations, and with the applicable manufacturer standard operating procedure (which the SSO must assure are included with the instrument upon its receipt onsite). Field calibration efforts must be documented. Figure 7-1 is provided for documenting these calibration efforts. This information may instead be recorded in a field operations logbook, provided that the information specified in Figure 7-1 is recorded. This required information includes the following:

- Date calibration was performed
- Individual calibrating the instrument

- Instrument name, model, and serial number
- Any relevant instrument settings and resultant readings (before and after) calibration
- Identification of the calibration standard (lot no., source concentration, supplier)
- Any relevant comments or remarks

7.4 DOCUMENTING INSTRUMENT READINGS

The SHSO is responsible for ensuring that air monitoring instruments are used in accordance with the specifications of this HASP and with manufacturer specifications/recommendations. In addition, the SHSO is also responsible for ensuring that all instrument use is documented. This requirement can be satisfied either by recording instrument readings on pre-printed sampling log sheets or in a field logbook. **This includes the requirement for documenting instrument readings that indicate no elevated readings greater than noted daily background levels (i.e., no-exposure readings).** At a minimum, the SHSO must document the following information for each use of an air monitoring device:

- Date, time, and duration of the reading.
- Site location where the reading was obtained.
- Instrument used (e.g., PID, FID, LEL/O₂ meter, etc.).
- Personnel present at the area where the reading was noted.
- Other conditions that are considered relevant to the SHSO (e.g., weather conditions, possible instrument interferences, etc.).

8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS

8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING

This section is included to specify health and safety training and medical surveillance requirements for Tetra Tech personnel participating in on site activities. Tetra Tech personnel must complete 40 hours of introductory hazardous waste site training prior to performing work at NSB-NLON. Tetra Tech personnel who have had introductory training more than 12 months prior to site work must have completed 8 hours of refresher training within the past 12 months before being cleared for site work. In addition, 8-hour supervisory training in accordance with 29 CFR 1910.120(e)(4) will be required for site supervisory personnel.

Documentation of Tetra Tech introductory, supervisory, and refresher training as well as site-specific training will be maintained at the site. Copies of certificates or other official documentation will be used to fulfill this requirement.

8.2 SITE-SPECIFIC TRAINING

Tetra Tech SSO will provide site-specific training to Tetra Tech employees who will perform work on this project. Figure 8-1 will be used to document the provision and content of the project-specific and associated training. Site personnel will be required to sign this form prior to commencement of site activities. This training documentation will be employed to identify personnel who through record review and attendance of the site-specific training are cleared for participation in site activities. This document shall be maintained at the site to identify and maintain an active list of trained and cleared site personnel.

The Tetra Tech SSO will also conduct a pre-activities training session prior to initiating site work. This will consist of a brief meeting at the beginning of each day to discuss operations planned for that day, and a review of the appropriate Safe Work Permits with the planned task participants. A short meeting may also be held at the end of the day to discuss the operations completed and any problems encountered.

8.3 MEDICAL SURVEILLANCE

Tetra Tech personnel participating in project field activities will have had a physical examination meeting the requirements of Tetra Tech's medical surveillance program. Documentation for medical clearances will be maintained in the Tetra Tech Pittsburgh office and made available, as necessary, and will be documented using Figure 8-1 for every employee participating in onsite work activities at this site.

Each field team member, including visitors, entering the exclusion zone(s) shall be required to complete and submit a copy of the Medical Data Sheet (see Attachment I of this HASP). This shall be provided to the SSO, prior to participating in site activities. The purpose of this document is to provide site personnel and emergency responders with additional information that may be necessary in order to administer medical attention.

9.0 SITE CONTROL

This section outlines the means by which Tetra Tech will delineate three work zones and use these work zones in conjunction with decontamination procedures to prevent the spread of contaminants into previously unaffected areas of the site. It is anticipated that a three-zone approach will be used during work at this site. This approach will be comprised of an exclusion zone, a contamination reduction zone, and a support zone. It is also anticipated that this approach will control access to site work areas, restricting access by the general public, minimizing the potential for the spread of contaminants, and protecting individuals who are not cleared to enter work areas.

9.1 EXCLUSION ZONE

The exclusion zone will be considered the areas of the site of known or suspected contamination. Once sampling activities have been completed and any residual surface contamination has been removed, the potential for exposure is again diminished and the area can then be reclassified as part of the contamination reduction zone. Therefore, the exclusion zones for this project will be limited to those areas of the site where active work (i.e., sample collection) is being performed plus a designated area of at least 15 feet surrounding the work area. Exclusion zones will be delineated as deemed appropriate by the FOL, through means such as erecting visibility fencing, barrier tape, cones, and/or postings to inform and direct personnel.

9.1.1 Exclusion Zone Clearance

A pre-startup site visit will be conducted by members of the identified field team in an effort to identify proposed subsurface investigation locations, conduct utility clearances, and provide upfront notices concerning scheduled activities within the facility.

Subsurface activities will proceed only when utility clearance has been obtained. In the event that a utility is struck during a subsurface investigative activity, the emergency numbers provided in Section 2.0, Table 2-1, will be notified.

9.2 CONTAMINATION REDUCTION ZONE

The contamination reduction zone (CRZ) will be a buffer area between the exclusion zone and any area of the site where contamination is not suspected. This area will also serve as a focal point in supporting exclusion zone activities. This area will be delineated using barrier tape, cones, and postings to inform and direct facility personnel. Decontamination will be conducted at a central location. Equipment potentially contaminated will be bagged and taken to that location for decontamination.

9.3 SUPPORT ZONE

The support zone for this project will include a staging area where site vehicles will be parked, equipment will be unloaded, and where food and drink containers will be maintained. The support zones will be established at areas of the site where away from potential exposure to site contaminants during normal working conditions or foreseeable emergencies.

9.4 SAFE WORK PERMITS

Exclusion Zone work conducted in support of this project will be performed using Safe Work Permits (SWPs) to guide and direct field crews on a task by task basis. An example of the SWP to be used is provided in Figure 9-1. Partially completed SWPs for the work to be performed are attached to this HASP. These permits were completed to the extent possible as part of the development of this HASP. It is the SSO's responsibility to finalize and complete blank portions of the SWPs based on current, existing conditions the day the task is to be performed, and then review that completed permit with the task participants as part of a pre-task tail gate briefing session. This will ensure that site-specific considerations and changing conditions are appropriately incorporated into the SWP, provide the SSO with a structured format for conducting the tail gate sessions, as well will also give personnel an opportunity to ask questions and make suggestions. The SWPs require the signature of the FOL or SSO.

9.5 SITE VISITORS

Site visitors to the site must be escorted and restricted from approaching any work areas where they could be exposed to hazards from Tetra Tech operations. If a visitor has authorization from the client and from the Tetra Tech Project Manager to approach our work areas, the FOL must assure that the visitor first provides documentation indicating that he/she/they have successfully completed the necessary OSHA introductory training, receive site-specific training from the SSO, and that they have been physically cleared to work on hazardous waste sites.

Site visitors for the purpose of this document are identified as representing the following groups of individuals:

- Personnel invited to observe or participate in operations by Tetra Tech
- Regulatory personnel (i.e., DOD, EPA, OSHA)
- Property Owners
- Authorized Navy Personnel
- Other authorized visitors

Non-DOD personnel working on this project are required to gain initial access to the base by coordinating with the Tetra Tech FOL or designee and following established base access procedures.

Once access to the base is obtained, personnel who require site access into areas of ongoing operations will be required to obtain permission from the PM. Upon gaining access to the site, site visitors wishing to observe operations in progress will be escorted by a Tetra Tech representative and shall be required to meet the minimum requirements discussed below:

- Site visitors will be directed to the FOL/SSO, who will sign them into the field logbook. Information to be recorded in the logbook will include the individual's name (proper identification required), the entity which they represent, and the purpose of the visit.
- Site visitors wishing to enter the exclusion zone will be required to produce the necessary information supporting clearance to the site. This shall include information attesting to applicable training and medical surveillance as stipulated in Section 8.0 of this document. In addition, to enter the site operational zones during planned activities, visitors will be required to first go through site-specific training covering the topics stipulated in Section 8.2 of this HASP.

Once the site visitors have completed the above items, they will be permitted to enter the operational zone. Visitors are required to observe the protective equipment and site restrictions in effect at the site at the time of their visit. Visitors entering the exclusion zones during ongoing operations will be accompanied by a Tetra Tech representative. Visitors not meeting the requirements, as stipulated in this plan, for site clearance will not be permitted to enter the site operational zones during planned activities. Any incidence of unauthorized site visitation will cause the termination of on site activities until the unauthorized visitor is removed from the premises. Removal of unauthorized visitors will be accomplished with support from local law enforcement personnel.

9.6 SITE SECURITY

Site security will be accomplished using Tetra Tech field personnel. Tetra Tech will retain complete control over active operational areas. As this activity takes place at a Navy facility open to public access, the first line of security will take place using exclusive zone barriers, site work permits, and any existing barriers at the sites to restrict the general public. The second line of security will take place at the work site referring interested parties to the Base Contact. The Base Contact will serve as a focal point for interested party security will provide access and security of the site at access points from the water.

9.7 SITE MAP

Once the areas of contamination, access routes, topography, and dispersion routes are determined, a site map will be generated and adjusted as site conditions change. These maps will be posted to illustrate up-to-date collection of contaminants and adjustment of zones and access points.

9.8 BUDDY SYSTEM

Personnel engaged in on site activities will practice the "buddy system" to ensure the safety of personnel involved in this operation.

9.9 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS

Tetra Tech and subcontractor personnel will provide MSDSs for chemicals brought on site. The contents of these documents will be reviewed by the SSO with the user(s) of the chemical substances prior to any actual use or application of the substances on site. A chemical inventory of the chemicals used on site will be developed using the Health and Safety Guidance Manual. The MSDSs will then be maintained in a central location (i.e., temporary office) and will be available for anyone to review upon request.

9.10 COMMUNICATION

As personnel will be working in proximity to one another during most field activities, a supported means of communication between field crew members will not be necessary. Two-way radios may be used between site workers to communicate emergency situations and request assistance if work occurs concurrently at multiple sites that are not proximate to each other.

External communication will be accomplished by using the telephones at predetermined and approved locations. External communication will primarily be used for the purpose of resource and emergency resource communications. Prior to the commencement of activities at the NSB-NLON, the FOL will determine and arrange for telephone communications.

**FIGURE 9-1
SAFE WORK PERMIT**

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): _____

II. Primary Hazards: *Potential hazards associated with this task* _____

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required

Level D Level B
 Level C Level A

Modifications/Exceptions: _____

Respiratory equipment required

Yes Specify on the reverse
 No

| VI. Chemicals of Concern | Hazard Monitoring | Action Level(s) | Response Measures |
|---------------------------------|--------------------------|------------------------|--------------------------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

Primary Route(s) of Exposure/Hazard: _____

(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. Additional Safety Equipment/Procedures

| | | | |
|----------------------------------|--|------------------------------------|--|
| Hard-hat..... | <input type="checkbox"/> Yes <input type="checkbox"/> No | Hearing Protection (Plugs/Muffs) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Glasses | <input type="checkbox"/> Yes <input type="checkbox"/> No | Safety belt/harness | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Chemical/splash goggles | <input type="checkbox"/> Yes <input type="checkbox"/> No | Radio/Cellular Phone | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield | <input type="checkbox"/> Yes <input type="checkbox"/> No | Barricades..... | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash suits/coveralls | <input type="checkbox"/> Yes <input type="checkbox"/> No | Gloves (Type –) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Impermeable apron..... | <input type="checkbox"/> Yes <input type="checkbox"/> No | Work/rest regimen | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel toe Work shoes or boots... | <input type="checkbox"/> Yes <input type="checkbox"/> No | Chemical Resistant Boot Covers | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| High Visibility vest..... | <input type="checkbox"/> Yes <input type="checkbox"/> No | Tape up/use insect repellent | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit | <input type="checkbox"/> Yes <input type="checkbox"/> No | Fire Extinguisher..... | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Shower/Eyewash | <input type="checkbox"/> Yes <input type="checkbox"/> No | Other..... | <input type="checkbox"/> Yes <input type="checkbox"/> No |

Modifications/Exceptions: _____

VIII. Site Preparation

| | Yes | No | NA |
|---|--------------------------|--------------------------|--------------------------|
| Utility Locating and Excavation Clearance completed..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physical Hazards Identified and Isolated (Splash and containment barriers)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IX. Additional Permits required (Hot work, confined space entry, excavation etc.)..... Yes No
If yes, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: _____

Permit Issued by: _____ Permit Accepted by: _____

10.0 SPILL CONTAINMENT PROGRAM

10.1 SCOPE AND APPLICATION

It is not anticipated that bulk hazardous materials (over 55-gallons) will be generated or handled at any given time as part of this scope of work. It is also not anticipated that such spillage would constitute a danger to human health or the environment. However, as the job progresses, some potential may exist for accumulating Investigative Derived Wastes (IDW) such as decontamination fluids, soil cuttings, disposable sampling equipment and PPE.

10.2 POTENTIAL SPILL AREAS

Potential spill areas will be periodically monitored in an ongoing attempt to prevent and control further potential contamination of the environment. Currently, limited areas are vulnerable to this hazard including:

- Resource deployment
- Waste transfer
- Central staging

It is anticipated that the IDW generated as a result of this scope of work will be containerized, labeled, and staged to await further analyses. The results of these analyses will determine the method of disposal.

10.3 LEAK AND SPILL DETECTION

To establish an early detection of potential spills or leaks, a periodic walk-around by the personnel staging or disposing of drums area will be conducted during working hours to visually determine that storage vessels are not leaking. If a leak is detected, the contents will be transferred, using a hand pump, into a new vessel. The leak will be collected and contained using absorbents such as Oil-Dry, vermiculite, or sand, which are stored at the vulnerable areas in a conspicuously marked drum. This used material, too, will be containerized for disposal pending analysis. Inspections will be documented in the project logbook.

10.4 PERSONNEL TRAINING AND SPILL PREVENTION

Personnel will be instructed in the procedures for incipient spill prevention, containment, and collection of hazardous materials in the site-specific training. The FOL and the SSO will serve as the Spill Response Coordinators for this operation, should the need arise.

10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT

The following represents the types of equipment that should be maintained at the staging areas for the purpose of supporting this Spill Prevention/Containment Program.

- Sand, clean fill, vermiculite, or other non combustible absorbent (Oil-dry)
- Drums (55-gallon U.S. DOT IAI or 1A2)
- Shovels, rakes, and brooms
- Container labels

10.6 SPILL CONTROL PLAN

This section describes the procedures the Tetra Tech field crew members will employ upon the detection of a spill or leak.

- Notify the SSO or FOL immediately upon detection of a leak or spill. Activate emergency alerting procedures for that area to remove non-essential personnel.
- Employ the personal protective equipment stored at the staging area. Take immediate actions to stop the leak or spill by plugging or patching the container or raising the leak to the highest point in the vessel. Spread the absorbent material in the area of the spill, covering it completely.
- Transfer the material to a new vessel; collect and containerize the absorbent material. Label the new container appropriately. Await analyses for treatment and disposal options.
- Re-containerize spills, including 2-inch of top cover impacted by the spill. Await test results for treatment or disposal options.

It is not anticipated that a spill will occur that the field crew cannot handle. Should this occur, notification of the appropriate Emergency Response agencies will be carried out by the FOL or SSO in accordance with the procedures discussed in Section 2.0 of this HASP.

11.0 CONFINED-SPACE ENTRY

It is not anticipated, under the proposed scope of work, that confined space and permit-required confined space activities will be conducted. **Therefore, personnel under the provisions of this HASP are not allowed, under any circumstances, to enter confined spaces.** A confined space is defined as an area which has one or more of the following characteristics:

- Is large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit (for example, tanks, manholes, sewers, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry).
- Is not designed for continuous employee occupancy.

Additionally, a Permit-Required Confined Space must also have one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly caving walls or by a floor that slopes downward and tapers to a smaller cross-section.
- Contains any other recognized, serious, safety or health hazard.

For further information on confined space, consult the Health and Safety Guidance Manual or call the PHSO. If confined space operations are to be performed as part of the scope of work, detailed procedures and training requirements will have to be addressed.

12.0 MATERIALS AND DOCUMENTATION

The Tetra Tech Field Operations Leader (FOL) shall ensure the following materials/documents are taken to the project site and used when required.

- A complete copy of this HASP
- Health and Safety Guidance Manual
- Incident Reports
- Medical Data Sheets
- Material Safety Data Sheets for chemicals brought on site, including decontamination solutions, fuels, sample preservatives, calibration gases, etc.
- A full-size OSHA Job Safety and Health Poster (posted in the site trailer)
- Training/Medical Surveillance Documentation Form (Blank)
- First-Aid Supply Usage Form
- Emergency Reference Form (Section 2.0, extra copy for posting)
- Directions to the Hospital

12.1 MATERIALS TO BE POSTED AT THE SITE

The following documentation is to be posted or maintained at the site for quick reference purposes. In situations where posting these documents is not feasible (such as no office trailer), these documents should be separated and immediately accessible.

- **Chemical Inventory Listing (posted)** - This list represents the chemicals brought on-site, including decontamination solutions, sample preservations, fuel, etc. This list should be posted in a central area.
- **MSDSs (maintained)** - The MSDSs should also be in a central area accessible to the site personnel. These documents should match the listings on the chemical inventory list for the substances employed on-site. It is acceptable to have these documents within a central folder and the chemical inventory as the table of contents.
- **The OSHA Job Safety & Health Protection Poster (posted)** - This poster should be conspicuously posted in places where notices to employees are normally posted, as directed by 29 CFR 1903.2 (a)(1). Each FOL shall ensure that this poster is not defaced, altered, or covered by other material. The law also states that reproductions or facsimiles of the poster shall be at least 8 1/2 by 14 inches with 10 point type.

- **Site Clearance (maintained)** - This list is found within the training section of the HASP (Figure 8-1). This list identifies the site personnel, dates of training (including site-specific training), and medical surveillance. The list indicates not only clearance, but also status. If personnel do not meet these requirements, they do not enter the site while site personnel are engaged in activities.
- **Emergency Phone Numbers and Directions to the Hospital(s) (posted)** - This list of numbers and directions will be maintained at the phone communications points and in each site vehicle.
- **Medical Data Sheets/Cards (maintained)** - Medical Data Sheets will be filled out by on-site personnel and filed in a central location. The Medical Data Sheet will accompany any injury or illness requiring medical attention to the medical facility. A copy of this sheet or a wallet card will be given to the personnel to be carried on their person.
- **Personnel Monitoring (maintained)** - The results generated through personnel sampling (levels of airborne toxins, noise levels, etc.) will be posted to inform individuals of the results of that effort.
- **Placards and Labels (maintained)** - Where chemical inventories have been separated because of quantities and incompatibilities, these areas will be conspicuously marked using DOT placards and acceptable [Hazard Communication 29 CFR 1910.1200(f)] labels.

The purpose of maintaining or posting this information, as stated above, is to allow site personnel quick access. Variations concerning location and methods of presentation are acceptable providing the objective is accomplished.

13.0 ACRONYMS / ABBREVIATIONS

| | |
|------------|--|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CFR | Code of Federal Regulations |
| CIH | Certified Industrial Hygienist |
| CLEAN | Comprehensive Long-Term Environmental Action Navy |
| CSP | Certified Safety Professional |
| DRI | Direct Reading Instrument |
| FOL | Field Operations Leader |
| HASP | Health and Safety Plan |
| HAZWOPER | Hazardous Waste Operations and Emergency Response |
| IARC | International Agency for Research on Cancer |
| HSM | Health and Safety Manager |
| IDW | Investigation Derived Waste |
| N/A | Not Available |
| NIOSH | National Institute for Occupational Safety and Health |
| OSHA | Occupational Safety and Health Administration (U.S. Department of Labor) |
| PEL | Permissible Exposure Limit |
| PHSO | Project Health and Safety Officer |
| PID | Photoionization Detector |
| PM | Project Manager |
| PPE | Personal Protective Equipment |
| SSO | Site Safety Officer |
| STEL | Short Term Exposure Limit |
| TBD | To be determined |
| Tetra Tech | Tetra Tech NUS, Inc. |
| TWA | Time Weighted Average |

ATTACHMENT I
MEDICAL DATA SHEET

MEDICAL DATA SHEET

This Medical Data Sheet must be completed by on-site personnel and kept in the command post during the conduct of site operations. This data sheet will accompany any personnel when medical assistance is needed or if transport to hospital facilities is required.

Project _____

Name _____ Home Telephone _____

Address _____

Age _____ Height _____ Weight _____

Person to notify in the event of an emergency: Name: _____

Phone: _____

Drug or other Allergies: _____

Particular Sensitivities : _____

Do You Wear Contacts? _____

What medications are you presently using? _____

Name, Address, and Phone Number of personal physician: _____

Note: Health Insurance Portability and Accountability Act (HIPAA) Requirements

HIPAA took effect April 14, 2003. Loosely interpreted, HIPAA regulates the disclosure of Protected Health Information (PHI) by the entity collecting that information. PHI is any information about health status (such as that you may report on this Medical Data Sheet), provision of health care, or other information. HIPAA also requires Tetra Tech to ensure the confidentiality of PHI. This Act can affect the ability of the Medical Data Sheet to contain and convey information you would want a Doctor to know if you were incapacitated. So before you complete the Medical Data Sheet understand that this form will not be maintained in a secure location. It will be maintained in a file box or binder accessible to other members of the field crew so that the can accompany an injured party to the hospital.

DO NOT include information that you do not wish others to know, only information that may be pertinent in an emergency situation or treatment.

Name (Print clearly)

Signature

Date

ATTACHMENT II
INCIDENT REPORT FORM

| Report Date | Report Prepared By | Incident Report Number |
|--|--|---|
| | | |
| INSTRUCTIONS: | | |
| All incidents (including those involving subcontractors under direct supervision of Tetra Tech personnel) must be documented on the IR Form. | | |
| Complete any additional parts to this form as indicated below for the type of incident selected. | | |
| TYPE OF INCIDENT (Check all that apply) | | Additional Form(s) Required for this type of incident |
| Near Miss (No losses, but could have resulted in injury, illness, or damage) | <input type="checkbox"/> | Complete IR Form Only |
| Injury or Illness | <input type="checkbox"/> | Complete Form IR-A; Injury or Illness |
| Property or Equipment Damage, Fire, Spill or Release | <input type="checkbox"/> | Complete Form IR-B; Damage, Fire, Spill or Release |
| Motor Vehicle | <input type="checkbox"/> | Complete Form IR-C; Motor Vehicle |
| INFORMATION ABOUT THE INCIDENT | | |
| Description of Incident | | |
| <hr/> <hr/> <hr/> | | |
| Date of Incident | Time of Incident | |
| | _____ AM <input type="checkbox"/> PM <input type="checkbox"/> OR Cannot be determined <input type="checkbox"/> | |
| Weather conditions at the time of the incident | Was there adequate lighting? | |
| | _____ Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Location of Incident | | |
| _____ Was location of incident within the employer's work environment? Yes <input type="checkbox"/> No <input type="checkbox"/> | | |
| Street Address | City, State, Zip Code and Country | |
| | | |
| Project Name | Client: | |
| | | |
| Tt Supervisor or Project Manager | Was supervisor on the scene? | |
| | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| WITNESS INFORMATION (attach additional sheets if necessary) | | |
| Name | Company | |
| | | |
| Street Address | City, State and Zip Code | |
| | | |
| Telephone Number(s) | | |
| | | |

| CORRECTIVE ACTIONS | | | | |
|---|--|-----------|------------------|------|
| Corrective action(s) immediately taken by unit reporting the incident: | | | | |
| <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> | | | | |
| Corrective action(s) still to be taken (by whom and when): | | | | |
| <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> | | | | |
| ROOT CAUSE ANALYSIS LEVEL REQUIRED | | | | |
| Root Cause Analysis Level Required: Level - 1 <input type="checkbox"/> Level - 2 <input type="checkbox"/> None <input type="checkbox"/> | | | | |
| Root Cause Analysis Level Definitions | | | | |
| Level - 1 | <p>Definition: A Level 1 RCA is conducted by an individual(s) with experience or training in root cause analysis techniques and will conduct or direct documentation reviews, site investigation, witness and affected employee interviews, and identify corrective actions. Activating a Level 1 RCA and identifying RCA team members will be at the discretion of the Corporate Administration office.</p> <p>The following events may trigger a Level 1 RCA:</p> <ul style="list-style-type: none"> ▪ Work related fatality ▪ Hospitalization of one or more employee where injuries result in total or partial permanent disability ▪ Property damage in excess of \$75,000 ▪ When requested by senior management | | | |
| Level - 2 | <p>Definition: A Level 2 RCA is self performed within the operating unit by supervisory personnel with assistance of the operating unit HSR. Level 2 RCA will utilize the 5 Why RCA methodology and document the findings on the tools provided.</p> <p>The following events will require a Level 2 RCA:</p> <ul style="list-style-type: none"> ▪ OSHA recordable lost time incident ▪ Near miss incident that could have triggered a Level 1 RCA ▪ When requested by senior management | | | |
| Complete the Root Cause Analysis Worksheet and Corrective Action form. Identify a corrective action(s) for each root cause identified within each area of inquiry. | | | | |
| NOTIFICATIONS | | | | |
| Title | Printed Name | Signature | Telephone Number | Date |
| Project Manager or Supervisor | | | | |
| Site Safety Coordinator or Office H&S Representative | | | | |
| Operating Unit H&S Representative | | | | |
| Other: _____ | | | | |

The signatures provided above indicate that appropriate personnel have been notified of the incident.

INSTRUCTIONS:

Complete all sections below for incidents involving injury or illness.
Do NOT leave any blanks.
Attach this form to the IR FORM completed for this incident.

Incident Report Number: (From the IR Form)

EMPLOYEE INFORMATION

Company Affiliation

Tetra Tech Employee? TetraTech subcontractor employee (directly supervised by Tt personnel)?

Full Name

Company (if not Tt employee)

Street Address, City, State and Zip Code

Address Type

Home address (for Tt employees)

Business address (for subcontractors)

Telephone Numbers

Work: _____

Home: _____

Cell: _____

Occupation (regular job title)

Department

Was the individual performing regular job duties?

Yes No

Time individual began work

_____ AM PM OR Cannot be determined

Safety equipment

Provided? Yes No

Used? Yes No If no, explain why

Type(s) provided: Hard hat Protective clothing
 Gloves High visibility vest
 Eye protection Fall protection
 Safety shoes Machine guarding
 Respirator Other (list)

NOTIFICATIONS

Name of Tt employee to whom the injury or illness was first reported

Was H&S notified within one hour of injury or illness?

Yes No

Date of report

H&S Personnel Notified

Time of report

Time of Report

If subcontractor injury, did subcontractor's firm perform their own incident investigation?

Yes No If yes, request a copy of their completed investigation form/report and attach it to this report.

INJURY / ILLNESS DETAILS

What was the individual doing just before the incident occurred? Describe the activity as well as the tools, equipment, or material the individual was using. Be specific. Examples: "Climbing a ladder while carrying roofing materials"; "Spraying chlorine from a hand sprayer"; "Daily computer key-entry"

What Happened? Describe how the injury occurred. Examples: "When ladder slipped on wet floor and worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time"

Describe the object or substance that directly harmed the individual: Examples: "Concrete floor"; "Chlorine"; "Radial Arm Saw". If this question does not apply to the incident, write "Not Applicable".

MEDICAL CARE PROVIDED

Was first aid provided at the site: Yes No If yes, describe the type of first aid administered and by whom?

Was treatment provided away from the site: Yes No If yes, provide the information below.

| | |
|--|--|
| Name of physician or health care professional | Facility Name |
| | |
| Street Address, City State and Zip Code | Type of Care? |
| | Was individual treated in emergency room? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| | Was individual hospitalized overnight as an in-patient? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Telephone Number | Did the individual die? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, date: _____ |
| | Will a worker's compensation claim be filed? Yes <input type="checkbox"/> No <input type="checkbox"/> |

NOTE: Attach any police reports or related diagrams to this report.

SIGNATURES

I have reviewed this report and agree that all the supplied information is accurate

| Affected individual (print) | Affected individual (signature) | Telephone Number | Date |
|-----------------------------|---------------------------------|------------------|------|
| | | | |

This form contains information relating to employee health and must be used in a manner that protects the confidentiality of the employee to the extent possible while the information is being used for occupational safety and health purposes.

INSTRUCTIONS:

Complete all sections below for incidents involving property/equipment damage, fire, spill or release.
Do NOT leave any blanks.
Attach this form to the IR FORM completed for this incident.

Incident Report Number: (From the IR Form)

TYPE OF INCIDENT (Check all that apply)

Property Damage

Equipment Damage

Fire or Explosion

Spill or Release

INCIDENT DETAILS

Results of Incident: Fully describe damages, losses, etc.

Response Actions Taken:

Responding Agency(s) (i.e. police, fire department, etc.)

Agency(s) Contact Name(s)

DAMAGED ITEMS (List all damaged items, extent of damage and estimated repair cost)

| Item: | Extent of damage: | Estimated repair cost |
|-------|-------------------|-----------------------|
| | | |
| | | |
| | | |

SPILLS / RELEASES (Provide information for spilled/released materials)

| Substance | Estimated quantity and duration | Specify Reportable Quantity (RQ) |
|-----------|---------------------------------|--|
| | | _____ Exceeded? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |

FIRES / EXPLOSIONS (Provide information related to fires/explosions)

Fire fighting equipment used? Yes No If yes, type of equipment: _____

NOTIFICATIONS

| Required notifications | Name of person notified | By whom | Date / Time |
|--|-------------------------|---------|-------------|
| Client: _____ Yes <input type="checkbox"/> No <input type="checkbox"/> | | | |
| Agency: _____ Yes <input type="checkbox"/> No <input type="checkbox"/> | | | |
| Other: _____ Yes <input type="checkbox"/> No <input type="checkbox"/> | | | |

Who is responsible for reporting incident to outside agency(s)? To Client Other Name: _____

Was an additional written report on this incident generated? Yes No If yes, place in project file.

INSTRUCTIONS:

Complete all sections below for incidents involving motor vehicle accidents. Do NOT leave any blanks.
Attach this form to the IR FORM completed for this incident.

| | | | |
|---|------|--|--|
| Incident Report Number: (From the IR Form) | | | |
| INCIDENT DETAILS | | | |
| Name of road, street, highway or location where accident occurred | | Name of intersecting road, street or highway if applicable | |
| | | | |
| County | City | State | |
| | | | |
| Did police respond to the accident? | | Did ambulance respond to the accident? | |
| Yes <input type="checkbox"/> No <input type="checkbox"/> | | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Name and location of responding police department | | Ambulance company name and location | |
| | | | |
| Officer's name/badge # | | | |
| Did police complete an incident report? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, police report number: _____ Request a copy of completed investigation report and attach to this form. | | | |
| VEHICLE INFORMATION | | | |
| How many vehicles were involved in the accident? _____ (Attach additional sheets as applicable for accidents involving more than 2 vehicles.) | | | |
| Vehicle Number 1 – Tetra Tech Vehicle | | Vehicle Number 2 – Other Vehicle | |
| Vehicle Owner / Contact Information | | Vehicle Owner / Contact Information | |
| Color | | Color | |
| Make | | Make | |
| Model | | Model | |
| Year | | Year | |
| License Plate # | | License Plate # | |
| Identification # | | Identification # | |
| Describe damage to vehicle number 1 | | Describe damage to vehicle number 2 | |
| | | | |
| Insurance Company Name and Address | | Insurance Company Name and Address | |
| | | | |
| Agent Name | | Agent Name | |
| Agent Phone No. | | Agent Phone No. | |
| Policy Number | | Policy Number | |

DRIVER INFORMATION

| Vehicle Number 1 – Tetra Tech Vehicle | | Vehicle Number 2 – Other Vehicle | |
|--|---|--|---|
| Driver's Name | | Driver's Name | |
| Driver's Address | | Driver's Address | |
| Phone Number | | Phone Number | |
| Date of Birth | | Date of Birth | |
| Driver's License # | | Driver's License # | |
| Licensing State | | Licensing State | |
| Gender | Male <input type="checkbox"/> Female <input type="checkbox"/> | Gender | Male <input type="checkbox"/> Female <input type="checkbox"/> |
| Was traffic citation issued to Tetra Tech driver? Yes <input type="checkbox"/> No <input type="checkbox"/> | | Was traffic citation issued to driver of other vehicle? Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Citation # | | Citation # | |
| Citation Description | | Citation Description | |

PASSENGERS IN VEHICLES (NON-INJURED)

List all non-injured passengers (excluding driver) in each vehicle. Driver information is captured in the preceding section. Information related to persons injured in the accident (non-Tt employees) is captured in the section below on this form. Injured Tt employee information is captured on FORM IR-A

| Vehicle Number 1 – Tetra Tech Vehicle | | Vehicle Number 2 – Other Vehicle | |
|---|--|---|--|
| How many passengers (excluding driver) in the vehicle? ____ | | How many passengers (excluding driver) in the vehicle? ____ | |
| Non-Injured Passenger Name and Address | | Non-Injured Passenger Name and Address | |
| Non-Injured Passenger Name and Address | | Non-Injured Passenger Name and Address | |
| Non-Injured Passenger Name and Address | | Non-Injured Passenger Name and Address | |

INJURIES TO NON-TETRATECH EMPLOYEES

| | | | | | | |
|--------------------------|---|---------|-----------------|--|--|--|
| Name of injured person 1 | | | | Address of injured person 1 | | |
| | | | | | | |
| Age | Gender | Car No. | Location in Car | Seat Belt Used? | Ejected from car? | Injury or Fatality? |
| | Male <input type="checkbox"/> Female <input type="checkbox"/> | | | Yes <input type="checkbox"/> No <input type="checkbox"/> | Yes <input type="checkbox"/> No <input type="checkbox"/> | Injured <input type="checkbox"/> Died <input type="checkbox"/> |
| Name of injured person 2 | | | | Address of injured person 2 | | |
| | | | | | | |
| Age | Gender | Car No. | Location in Car | Seat Belt Used? | Ejected from car? | Injury or Fatality? |
| | Male <input type="checkbox"/> Female <input type="checkbox"/> | | | Yes <input type="checkbox"/> No <input type="checkbox"/> | Yes <input type="checkbox"/> No <input type="checkbox"/> | Injured <input type="checkbox"/> Died <input type="checkbox"/> |

OTHER PROPERTY DAMAGE

| | |
|---|--------------------------|
| Describe damage to property other than motor vehicles | |
| | |
| Property Owner's Name | Property Owner's Address |
| | |

COMPLETE AND SUBMIT DIAGRAM DEPICTING WHAT HAPPENED

A large, empty rectangular box with a black border, intended for drawing a diagram. The box occupies most of the page below the instruction header.

ATTACHMENT III
SAFE WORK PERMITS

SAFE WORK PERMIT
 MOBILIZATION/DEMOBILIZATION ACTIVITIES
 NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Mobilization and demobilization activities such as unpacking/packing, staging equipment and supplies.

II. Primary Hazards: Lifting; pinches and compressions; vehicular and foot traffic; slips/trips/falls, and ambient temperature extremes; insect/animal bites and stings; poisonous plants; and inclement weather

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech

Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required

Level D Level B

Level C Level A

Modifications/Exceptions: _____

Respiratory equipment required

Yes Specify on the reverse

No

VI. Chemicals of Concern

None anticipated

Hazard Monitoring

NA

Action Level(s)

NA

Response Measures

NA

Primary Route(s) of Exposure/Hazard: NA

(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. Additional Safety Equipment/Procedures

| | | | | | |
|---------------------------------|---|--|--|------------------------------|--|
| Hard-hat..... | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Hearing Protection (Plugs/Muffs) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Safety Glasses | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Safety belt/harness | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Chemical/splash goggles | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Radio/Cellular Phone | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Splash Shield | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Barricades | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Splash suits/coveralls | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Gloves (Type – leather/cotton) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Impermeable apron..... | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Work/rest regimen | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Steel toe work shoes/boots..... | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Chemical Resistant Boot Covers..... | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| High Visibility vest..... | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Tape up/use insect repellent | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| First Aid Kit | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Fire Extinguisher | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Safety Shower/Eyewash | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Other | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Modifications/Exceptions: PPE selection is at the discretion of the SSO and is dependent upon tasks being performed. In general, site activities require the use of basic safety equipment (field clothing and steel-toe footwear). Work gloves (cotton or leather) will be used when necessary to protect against cut or abrasions.

VIII. Site Preparation

| | Yes | No | NA |
|---|--------------------------|--------------------------|-------------------------------------|
| Utility Locating and Excavation Clearance completed..... | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physical Hazards Identified and Isolated (Splash and containment barriers)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IX. Additional Permits required (Hot work, confined space entry, excavation etc.)..... Yes No
If yes, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Site contaminants are unlikely to be encountered during this site activity. Material Safety Data Sheets (MSDS) will be provided for the chemicals used on site (sample preservatives, decon solutions, fuels, etc.). Refer to MSDS for additional guidance including use of PPE and safe handling procedures. Obtain assistance when handling heavy equipment (sample coolers, instrument cases, sampling equipment, etc.). Follow manufacturer's recommendations for insect repellent application/re-application. Review operating instructions for the particulate monitor prior to beginning work at the site.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
SOIL SAMPLING VIA DPT
NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Soil sampling via DPT; this may include coring through concrete and/or asphalt

II. Primary Hazards: Contact with contaminants; transfer of contamination; lifting; slip/trips/falls; ambient temperature extremes; vehicular and foot traffic; insect/animal bites and stings, poisonous plants, inclement weather; pinch and compression points, sharp object hazards, heavy equipment hazards

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech

Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required

Level D Level B

Level C Level A

Modifications/Exceptions: _____

Respiratory equipment required

Yes Specify on the reverse

No

VI. Chemicals of Concern

Dust/Metals (primary = lead)

Hazard Monitoring/Action Level(s)

Visible dust

Particulate monitor – 0.05 mg/m3

4 times in one work day

Response Measures

Use area wetting techniques

Retreat upwind until returns to

background. If does not return to

BG, cease work and call SSO.

Primary Route(s) of Exposure/Hazard: direct contact, ingestion, inhalation

(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. Additional Safety Equipment/Procedures

Hard-hat Yes No

Safety glasses Yes No

Chemical/splash goggles Yes No

Splash Shield Yes No

Splash suits/coveralls Yes No

Impermeable apron Yes No

Steel toe work shoes/boots Yes No

High Visibility vest Yes No

First Aid Kit Yes No

Safety Shower/Eyewash Yes No

Modifications/Exceptions: Other PPE at SSO's discretion based on observed hazards (high visibility reflective vests, etc.).

Hearing Protection (Plugs/Muffs) ... Yes No

Safety belt/harness Yes No

Radio/Cellular Phone Yes No

Barricades Yes No

Gloves (Type – Nitrile) Yes No

Work/rest regimen Yes No

Chemical resistant boot covers Yes No

Tape up/use insect repellent Yes No

Fire Extinguisher Yes No

Other Yes No

VIII. Site Preparation

Utility Locating and Excavation Clearance completed Yes No NA

Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place Yes No NA

Physical Hazards Identified and Isolated (Splash and containment barriers) Yes No NA

Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) Yes No NA

IX. Additional Permits required (Hot work, confined space entry, excavation etc.) Yes No

If yes, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Significant airborne concentrations of potential site contaminants are unlikely to be encountered during this site activity. Use of safe working practices and PPE will prevent potential contact/exposure to site contaminants. Obtain assistance when handling heavy equipment (sample coolers, instrument cases, sampling equipment, etc.). Complete Equipment Checklist prior to beginning work. – Attachment IV.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
 MONITORING WELL SURVEYING ACTIVITIES
 NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Monitoring well surveying and associated activities.

II. Primary Hazards: Pinches and compressions; vehicular and foot traffic; slips/trips/falls, and ambient temperature extremes; insect/animal bites and stings; poisonous plants; and inclement weather

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required **Respiratory equipment required**
 Level D Level B Yes Specify on the reverse
 Level C Level A No

Modifications/Exceptions: _____

| | | | |
|---------------------------------|--------------------------|------------------------|--------------------------|
| VI. Chemicals of Concern | Hazard Monitoring | Action Level(s) | Response Measures |
| <u>None anticipated</u> | <u>NA</u> | <u>NA</u> | <u>NA</u> |

Primary Route(s) of Exposure/Hazard: NA

(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. Additional Safety Equipment/Procedures

| | |
|--|--|
| Hard-hat <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hearing Protection (Plugs/Muffs) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Safety Glasses <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Safety belt/harness <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/splash goggles <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio/Cellular Phone <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Splash suits/coveralls <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Gloves (Type – leather/cotton) <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Impermeable apron <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Work/rest regimen <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel toe work shoes/boots <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Chemical Resistant Boot Covers <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| High Visibility vest <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Tape up/use insect repellent <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Fire Extinguisher <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Shower/Eyewash <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Other <input type="checkbox"/> Yes <input type="checkbox"/> No |

Modifications/Exceptions: PPE selection is at the discretion of the SSO and is dependent upon tasks being performed. In general, site activities require the use of basic safety equipment (field clothing and steel-toe footwear). Work gloves (cotton or leather) will be used when necessary to protect against cut or abrasions.

VIII. Site Preparation

| | | | |
|---|--------------------------|--------------------------|-------------------------------------|
| | Yes | No | NA |
| Utility Locating and Excavation Clearance completed..... | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physical Hazards Identified and Isolated (Splash and containment barriers)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IX. Additional Permits required (Hot work, confined space entry, excavation etc.) Yes No
If yes, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Site contaminants are unlikely to be encountered during this site activity. Follow manufacturer's recommendations for insect repellent application/re-application. Review operating instructions for the particulate monitor prior to beginning work at the site. Stop work in inclement weather.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
 STORM SEWER SURVEYING AND ASSOCIATED ACTIVITIES
 NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Storm sewer surveying and associated activities.

II. Primary Hazards: Pinches and compressions; vehicular and foot traffic; slips/trips/falls, and ambient temperature extremes; insect/animal bites and stings; poisonous plants; and inclement weather

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required **Respiratory equipment required**
 Level D Level B Yes Specify on the reverse
 Level C Level A No

Modifications/Exceptions: _____

| | | | |
|---------------------------------|--------------------------|------------------------|--------------------------|
| VI. Chemicals of Concern | Hazard Monitoring | Action Level(s) | Response Measures |
| <u>None anticipated</u> | <u>NA</u> | <u>NA</u> | <u>NA</u> |

Primary Route(s) of Exposure/Hazard: NA

(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. Additional Safety Equipment/Procedures

| | |
|--|--|
| Hard-hat <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hearing Protection (Plugs/Muffs) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Safety Glasses <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Safety belt/harness <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/splash goggles <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio/Cellular Phone <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Splash suits/coveralls <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Gloves (Type – leather/cotton) <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Impermeable apron <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Work/rest regimen <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel toe work shoes/boots <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Chemical Resistant Boot Covers <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| High Visibility vest <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Tape up/use insect repellent <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Fire Extinguisher <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Shower/Eyewash <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Other <input type="checkbox"/> Yes <input type="checkbox"/> No |

Modifications/Exceptions: PPE selection is at the discretion of the SSO and is dependent upon tasks being performed. In general, site activities require the use of basic safety equipment (field clothing and steel-toe footwear). Work gloves (cotton or leather) will be used when necessary to protect against cut or abrasions.

VIII. Site Preparation

| | | | |
|---|--------------------------|--------------------------|-------------------------------------|
| | Yes | No | NA |
| Utility Locating and Excavation Clearance completed..... | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physical Hazards Identified and Isolated (Splash and containment barriers)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IX. Additional Permits required (Hot work, confined space entry, excavation etc.) Yes No
If yes, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Site contaminants are unlikely to be encountered during this site activity. Follow manufacturer's recommendations for insect repellent application/re-application. Review operating instructions for the particulate monitor prior to beginning work at the site. Stop work in inclement weather. Tie-off/secure the manhole cover before removing to avoid dropping it into the sewer.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
GEOLOGICAL SURVEY
NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT

Permit No. _____ Date: _____ Time: From _____ to _____

- I. Work limited to the following (description, area, equipment used):** Geological surveying
- II. Primary Hazards:** Pinches and compressions; vehicular and foot traffic; slips/trips/falls, and ambient temperature extremes; insect/animal bites and stings; poisonous plants; and inclement weather

- III. Field Crew:** _____
- IV. On-site Inspection conducted** Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

- V. Protective equipment required** **Respiratory equipment required**
- Level D Level B Yes Specify on the reverse
 Level C Level A No
- Modifications/Exceptions: _____

- | | | | |
|---------------------------------|--------------------------|------------------------|--------------------------|
| VI. Chemicals of Concern | Hazard Monitoring | Action Level(s) | Response Measures |
| <u>None anticipated</u> | <u>NA</u> | <u>NA</u> | <u>NA</u> |

Primary Route(s) of Exposure/Hazard: NA

(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

- VII. Additional Safety Equipment/Procedures**
- | | |
|---|--|
| Hard-hat..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hearing Protection (Plugs/Muffs) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Safety Glasses <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Safety belt/harness <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/splash goggles <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio/Cellular Phone <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Splash suits/coveralls <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Gloves (Type – leather/cotton) <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Impermeable apron..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Work/rest regimen..... <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel toe work shoes/boots..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Chemical Resistant Boot Covers..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| High Visibility vest..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Tape up/use insect repellent <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Fire Extinguisher <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Shower/Eyewash..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Other <input type="checkbox"/> Yes <input type="checkbox"/> No |
- Modifications/Exceptions: PPE selection is at the discretion of the SSO and is dependent upon tasks being performed. In general, site activities require the use of basic safety equipment (field clothing and steel-toe footwear). Work gloves (cotton or leather) will be used when necessary to protect against cut or abrasions.

- VIII. Site Preparation**
- | | | | |
|---|--------------------------|--------------------------|-------------------------------------|
| | Yes | No | NA |
| Utility Locating and Excavation Clearance completed..... | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physical Hazards Identified and Isolated (Splash and containment barriers)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- IX. Additional Permits required** (Hot work, confined space entry, excavation etc.)..... Yes No
If yes, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

- X. Special instructions, precautions:** Site contaminants are unlikely to be encountered during this site activity. Follow manufacturer's recommendations for insect repellent application/re-application. Review operating instructions for the particulate monitor prior to beginning work at the site. Stop work in inclement weather.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PRACTICES
 DECONTAMINATION AND IDW MANAGEMENT
 NAVAL SUBMARINE BASE NEW LONDON
 GROTON, CONNECTICUT

Permit No. _____ Date: _____ Time: From _____ to _____

I. **Work limited to the following (description, area, equipment used):** Decontamination of sampling equipment and DPT rig used during sampling tasks and IDW management

II. **Primary Hazards:** decontamination fluids; ambient temperature extremes, slips, trips and falls; inclement weather, pressure washer, pinch and compression point hazards

III. **Field Crew:** _____

IV. **On-site Inspection conducted** Yes No Initials of Inspector _____ Tetra Tech

Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. **Protective equipment required**

Level D Level B

Level C Level A

Modifications/Exceptions: _____

Respiratory equipment required

Yes Specify on the reverse

No

VI. **Chemicals of Concern**

None anticipated

Hazard Monitoring

NA

Action Level(s)

NA

Response Measures

NA

Primary Route(s) of Exposure/Hazard: ingestion, direct contact

(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-hat Yes No

Safety Glasses Yes No

Chemical/splash goggles Yes No

Splash Shield Yes No

Splash suits/coveralls Yes No

Impermeable apron Yes No

Steel toe work shoes/boots Yes No

High Visibility vest Yes No

First Aid Kit Yes No

Safety Shower/Eyewash Yes No

Modifications/Exceptions: Splash shield, coveralls, aprons, boot covers at SSO's discretion, gloves, apron or splash suite when decontaminating DPT rigs.

Hearing Protection (Plugs/Muffs) Yes No

Safety belt/harness Yes No

Radio/Cellular Phone Yes No

Barricades Yes No

Gloves (Type – Nitrile) Yes No

Work/rest regimen Yes No

Chemical Resistant Boot Covers Yes No

Tape up/use insect repellent Yes No

Fire Extinguisher Yes No

Other Yes No

VIII. **Site Preparation**

Utility Locating and Excavation Clearance completed Yes No NA

Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place Yes No NA

Physical Hazards Identified and Isolated (Splash and containment barriers) Yes No NA

Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) Yes No NA

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.) Yes No

If yes, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** Significant concentrations of potential site contaminants are unlikely to be encountered during this site activity. Use of safe working practices and PPE will prevent potential contact/exposure to site contaminants. If any decon solvents are used (e.g., isopropanol), obtain and follow directions/precautions on MSDS.

Permit Issued by: _____ Permit Accepted by: _____

ATTACHMENT IV
EQUIPMENT INSPECTION
CHECKLIST

Equipment Inspection Checklist

Company: _____

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____

Time: ____ : ____

Equipment Type: _____
(e.g, earthmoving equipment - tractors backhoes, bulldozers, etc.)

Project Name: _____

Project No#: _____

| Yes | No | NA | Requirements | Comments |
|--------------------------|--------------------------|--------------------------|--|----------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Seat Belts <ul style="list-style-type: none"> • Are available for intended operator and passengers (where applicable) • Seat Belts are operational? | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Roll-Over Protection (ROPS) <ul style="list-style-type: none"> • Roll-over protection structures (ROPS) are provided on vehicles and heavy equipment (including scrapers, tractors, loaders, bulldozers, carryalls, etc.) | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Brakes <ul style="list-style-type: none"> • Brake systems capable of stopping and holding fully loaded equipment • Parking Brake functions properly • Wheel Chocks available (where and as applicable) | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Access <ul style="list-style-type: none"> • Non-slip steps • Grab Handles (3-Point Grab/Step Mounting Points) | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Audible Alarms <ul style="list-style-type: none"> • Audible alarms – All bidirectional machines, such as rollers, compacters, front-end loaders, bulldozers, and similar equipment, shall be equipped with a horn, distinguishable from the surrounding noise level, which shall be operated as needed when the machine is moving in either direction. <ul style="list-style-type: none"> - Back up Alarms – All self propelled equipment with an obstructed view to the rear will be equipped with a reverse gear signal alarm distinguishable from the surrounding noise level. • Horn functioning properly | |

EQUIPMENT INSPECTION CHECKLIST
PAGE 2

| Yes | No | NA | Requirements | Comments |
|--|--|--|--|----------|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <p>Highway Use</p> <ul style="list-style-type: none"> • Fenders for equipment that can exceed 15mph • Fire Extinguisher • Are exhaust emissions directed away from the Operator? • Cab <ul style="list-style-type: none"> - Clean, free from debris, tools or equipment that can interfere with foot Control. - Free from storage of flammable material/solvents • Mirrors, • Safety glass <ul style="list-style-type: none"> - Equipped with defrosters - Windshield wipers • Turn signals, lights, brake lights, etc. (front/rear) for equipment approved for highway use? • Gauges functioning properly • Tires (Tread) or tracks • Steering (standard and emergency) • Are tools and material secured to prevent movement during transport? | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <p>Fluid Levels:</p> <ul style="list-style-type: none"> • Engine oil • Transmission fluid • Brake fluid • Cooling system fluid • Hoses and belts • Hydraulic oil | |

EQUIPMENT INSPECTION CHECKLIST
PAGE 3

| Yes | No | NA | Requirements | Comments |
|--|--|--|---|----------|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Fueling <ul style="list-style-type: none"> • Fueling of vehicles and heavy equipment is done with the engine off. • No smoking is permitted at or near the fuel storage or refueling area. A sign is posted stating: NO SMOKING WITHIN 50 FEET. • No sources of ignition are present near the fuel storage or refueling area. • A dry chemical or carbon dioxide fire extinguisher (rated 6:BC or larger) is in a location accessible to the fueling area, no closer than 50-feet. • Safety cans available? | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Safety Guards – <ul style="list-style-type: none"> • Around rotating apparatus (belts, pulleys, sprockets, spindles, drums, flywheels, chains) all points of operations protected from accidental contact? • Hot pipes and surfaces are protected from accidental contact? • High pressure pneumatic lines have safety cable to prevent thrashing should it become disconnected? | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Attachments <ul style="list-style-type: none"> • Have the attachments designed for use (as per manufacturer’s recommendation) with this equipment been inspected and are considered suitable for use? | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Operator Qualifications <ul style="list-style-type: none"> • Does the operator have proper licensing where applicable, (e.g., CDL)? • Does the operator, understand the equipment’s operating instructions? • Is the operator experienced with this equipment? • Is the operator 21 years of age or more? | |

EQUIPMENT INSPECTION CHECKLIST
PAGE 4

| Yes | No | NA | Requirements | Comments |
|--|--|--|---|----------|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | PPE Required <ul style="list-style-type: none"> • Hardhat • Safety glasses • Work gloves • Chemical resistant gloves_____ • Steel toed Work Boots • Chemical resistant Boot Covers • Apron • Coveralls Tyvek, Saranex, cotton)_____ | |
| <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> | Key(s)? Operating Manual? | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Other Hazards <ul style="list-style-type: none"> • Excessive Noise Levels _____ dBA • Chemical hazards (Drilling supplies - Sand, bentonite, grout, fuel, etc.) - MSDSs available? | |

Approved for Use Yes No See Comments

 Site Health and Safety Officer

 Operator

ATTACHMENT V
OSHA POSTER

Job Safety and Health

It's the law!

OSHA

Occupational Safety
and Health Administration
U.S. Department of Labor

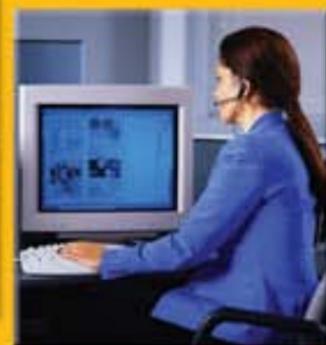
EMPLOYEES:

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the *OSH Act*.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the *OSH Act*.

This free poster available from OSHA –
The Best Resource for Safety and Health



Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA
www.osha.gov

OSHA 3185-12-06R